



Person- and family-centred support services for affected persons supporting substance-
dependent individuals: A technology-enabled intervention approach

by

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ABSTRACT

Seeing someone you care about struggle with a substance use disorder can be very upsetting and deeply affect your mental and emotional health. This research investigates the role of person- and family-centred support services (PFCSS) in enhancing the psychological wellbeing of Affected Persons (APs) and supporting individuals with substance dependency. The study adopts a transdisciplinary approach, integrating behavioural sciences, nursing informatics, and health informatics to develop a technology-enabled peer-led social support intervention. Drawing on Antonovsky's Sense of Coherence (SoC) theory, it explores the unique challenges and needs of APs within underserved communities.

Phase 1 findings emphasise the necessity of a safe, inclusive environment for open sharing and highlight the stressors faced by APs, including financial strain, mental health concerns, and complex family dynamics. Phase 2 focuses on designing and evaluating an Online Peer-led Social Support Group (OPSSG) tailored to APs' needs. Key features include emotional engagement, practical support, and user-friendly technology. Initial results demonstrate the effectiveness of interactive tools and the value of inclusivity in promoting sustained participation and well-being.

The study identifies gaps in current support services and proposes an innovative eHealth intervention to strengthening APs' SoC, foster resilience, and address unmet needs. Recommendations include enhancing platform accessibility, optimising engagement strategies, and expanding to diverse user demographics. This research contributes to advancing digital health solutions for vulnerable populations, with implications for improving health outcomes in addiction contexts.

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DEDICATION

This work is dedicated to my family, whose strength and support have carried me through this journey. To my father, whose pride in my accomplishments has been a constant source of motivation, I owe my deepest gratitude. To my entire family, who have shared the weight of this topic and its challenges within our own lives, your resilience has inspired me to persevere. Finally, I dedicate this work to my brother, for whom I continue to pray as he faces his ongoing battle with addiction. It is my hope that this study not only contributes to academic knowledge but also serves as a tribute to the courage, love, and faith that sustain us.

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ABBREVIATIONS AND ACRONYMS

AA	Alcoholics Anonymous
ACE	Adverse childhood experiences
AI	Artificial Intelligence
AIDS	Acquired Immunodeficiency Syndrome
ANP	Advanced Practice Nurses
AP	Affected person
BEACON OF HOPE	Belonging, Empathy, Acceptance, Coherence, Online & Nurture
COVID-19	Coronavirus Disease 2019
CRAFT	Community Reinforcement and Family Training
HIT	Health Information Technologies
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
IDR	Intervention design research
LMIC	Low- and middle-income countries
MA	Methamphetamine
NA	Narcotics Anonymous
NP	Nurse practitioner
OPLSSRI	Online peer-led social Support resource intervention
OPSSG	Online peer-led social Support Group

PCC	Person-centred care
PIE	Psychologically informed environments
PFCSS	Person- and family-centred support services
SDG	Sustainable Development Goals
SUD	Substance usage disorders
SMART	Self-Management and Recovery Training
SoC	Sense of Coherence
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization

GLOSSARY

Terms

Affected Persons (APs)	Individuals who are emotionally, socially, or financially impacted by supporting a loved one with substance dependency.
Behavioural Sciences	The scientific study of human behavior and interactions, used here to understand APs' experiences and needs.
Digital Health Solutions	Technology-based tools, platforms, or systems aimed at improving health outcomes and care delivery.
eHealth Intervention	A digital health solution designed to deliver care, education, or support remotely, often improving access to underserved populations.
Engagement Strategies	Methods used to encourage participation and interaction within a support platform or program.
Health Informatics	The use of digital tools, systems, and data analytics to improve health care delivery and outcomes.
Inclusivity	The practice of ensuring all individuals, regardless of background, can participate and feel supported.
Peer-Led Social Support Intervention	A support programme facilitated by people with lived experiences, promoting empathy, trust, and shared understanding.

Person- and Family-Centred Support Services (PFCSS)	A holistic approach to care that actively involves both the individual and their family in support and decision-making to improve well-being.
Resilience	The ability to adapt positively and recover from stress, adversity, or trauma, particularly in caregiving contexts.
Sense of Coherence (SOC)	A concept from Antonovsky’s theory, describing how individuals view life as comprehensible, manageable, and meaningful, impacting their resilience.
Substance Dependency	A chronic condition where an individual relies on drugs or alcohol, leading to physical, psychological, and social consequences.
Technology-Enabled Intervention	A support or treatment strategy delivered using technology (e.g., apps, platforms, online groups).
Transdisciplinary Approach	A collaborative research method that integrates knowledge and methods from multiple disciplines to solve complex health problems.
Underserved Communities	Populations with limited access to quality health services, resources, or support systems.

CHAPTER 1:

INTRODUCTION TO THE STUDY

1.1 Introduction

Over the past six years there has been a shift towards person-centred healthcare services with person- and family-centred support services (PFCSS) now forming an integral part of many welfare systems (Williams, 2019). It is essential to ensure the psychological and physical wellbeing of Affected Persons (APs) to maintain positive cohesion (Williams, 2019). Persons affected by substance-dependent individuals claimed to experience low psychological wellbeing, increased stress levels, and manifestations of depression and anxiety (Di Sarno et al., 2021).

Methamphetamine (MA), also known as 'tik' is one of the most abused illicit drugs in the world. According to Radfar and Rawson (2014), about two-thirds of the world's MA users are primarily found in East and Southeast Asia, followed by nearly one-fifth in the United States and Northern Mexico. Substance addiction is an expanding concern, being a causative factor of 12% of fatalities globally (Nowak et al., 2018) and is on the increase in developed countries (Ignaszewski, 2021), but minimal investigation has been done on substance abuse in underserved communities.

In South Africa, the relationships between individuals and healthcare professionals influence their health-seeking patterns (Kumah et al., 2024) and the prioritisation thereof. In many African countries, it has been reported that individuals have to be encouraged to engage with health services (World Health Organization, 2022) and that individuals living in rural areas underutilise health services compared to those living in urban areas (Zhang et al., 2022). According to the United Nations (2021), the population of South Africa is 58,073,978. The average age of substance dependency in South Africa is 12 years and decreasing.

The *George Herald* published an article quoting SANCA (South African National Council on Alcoholism and Drug Dependence) stating that South Africa is rated among the top 10 substance abusers in the world and that drug consumption in South Africa is "twice the global average ...". In South African studies on health service usage, stigmatisation at the delivery point poses challenges. Exploring the understanding of the perceptions of APs will possibly lead to improved outcomes (Rolova et al., 2021).

The usage of MA in South Africa (SA), in the Western Cape (WC) province, particularly in Cape Town and its neighbouring regions, has been increasing at an alarming rate (Wajid & Wajid, 2021). The impact of

drug abuse has been felt hugely over the past fifteen years and has contributed to the social ills in society. Limited governmental structures are in place to fight this pandemic. It can be concluded that substance addiction is a health crisis and its effects are global (Shayan et al., 2023).

As the individual most impacted by a person with substance abuse, an AP should be actively included in substance abuse treatment programs to ensure holistic care (Malik et al., 2023). Moreover, the wellbeing of APs - or deficiencies therein - can significantly affect outcomes related to substance abuse (Alhussain et al., 2019). It is important to understand how APs can be caught in dreadful situations which undermine satisfactory outcomes (Han et al., 2022). These APs' emotional, physical, social and financial wellbeing are negatively influenced, in addition to the constant concern over the substance addict's wellbeing (Mathibela & Skhosana, 2019).

APs are further distressed by the substance addict's lack of acknowledgement of their behaviour (Dyregrov et al., 2020), which results in their reluctance to continue supporting the substance addict (Alketbi & Al-Gharaibeh, 2023).

1.2 Background to problem statement

APs play a critical yet often overlooked role in supporting individuals struggling with substance abuse, acting as the cornerstone of their loved ones' recovery journeys. Despite their significance, research on the wellbeing of family members affected by substance abuse remains limited (Hogue et al., 2021). While some qualitative studies have explored the experiences of family members in these circumstances, there is a notable gap in understanding the broader range of APs, particularly in underserved areas with limited access to support services. Examining the challenges and perspectives of these APs can provide valuable insights for developing comprehensive and effective support systems for both substance users and their families.

Methamphetamine (MA) use has emerged as a significant concern, requiring specialized treatment to address the unique challenges faced by MA users (Hamel et al., 2020). Compared to other drug users, MA users encounter distinct obstacles (MacLean et al., 2017), and the global rise in the production and trafficking of MA has further exacerbated the issue (Milano et al., 2017). In South Africa, the prevalence of 610,000 MA users in 2014 had disproportionately impacted underserved areas, creating an urgent need for targeted interventions (Johnson et al., 2014). In Cape Town, substance addiction, particularly MA use,

has led to widespread ill health, strained interpersonal relationships, and increased rates of gender-based violence and risky sexual behaviour (Lewis et al., 2021).

The emotional and psychological toll on APs supporting MA users is significant, often resulting in emotional distress and a compromised quality of life (McGovern et al., 2021; Rushton et al., 2023). The lack of tailored support services further compounds the challenges faced by these individuals. Evidence-based strategies to manage the effects of drug use after treatment are crucial (Dunn et al., 2023). Innovative solutions, such as eHealth, have shown promise in addressing these gaps in healthcare delivery, particularly in Africa (Hampshire et al., 2021).

By exploring the potential of digital health applications to deliver personalized and interactive support services for APs, research can help bridge the knowledge gap and improve their wellbeing. This will ultimately enable APs to better support their loved ones while addressing the significant health, Social, and economic harms associated with drug addiction (Gordon et al., 2023; Rushton et al., 2024; Sampson et al., 2023; Sanatkar et al., 2022).

The limited research on the experiences and needs of APs supporting MA users, especially in underserved communities, underscores the critical need for context-sensitive, holistic person-, and family-centred support services. The role of innovative, technology-enabled solutions to enhance their wellbeing and strengthen support systems needs to be explored.

1.3 Research orientation

1.3.1 Research discipline framework to position the research

This research is positioned within an interdisciplinary framework, as depicted by the overlapping fields of Behavioural & Social Sciences, Health Sciences (Nursing), and Informatics, with Healthcare Services at the core. The framework underscores the integration of these domains to develop holistic and innovative support solutions for APs caring for individuals with substance addiction. The key components of the framework are as follows:

Venn diagram: The framework employs a Venn diagram to illustrate the convergence of:

- Behavioural & Social Sciences, focusing on theories such as "Sense of Coherence" and "Social Support," which underpin the understanding of resilience and wellbeing among persons in a support role.
- Health Sciences (Nursing), emphasising person-centred "Nursing Sciences" and "Health & Wellbeing Services," with a focus on nursing's pivotal role in addressing the needs of drug-affected individuals and their families.
- Informatics, which includes "Health Informatics" and "Nursing Informatics," highlights the application of digital tools and data management for enhanced healthcare delivery and support systems.

Research Discipline Framework to Position the Research

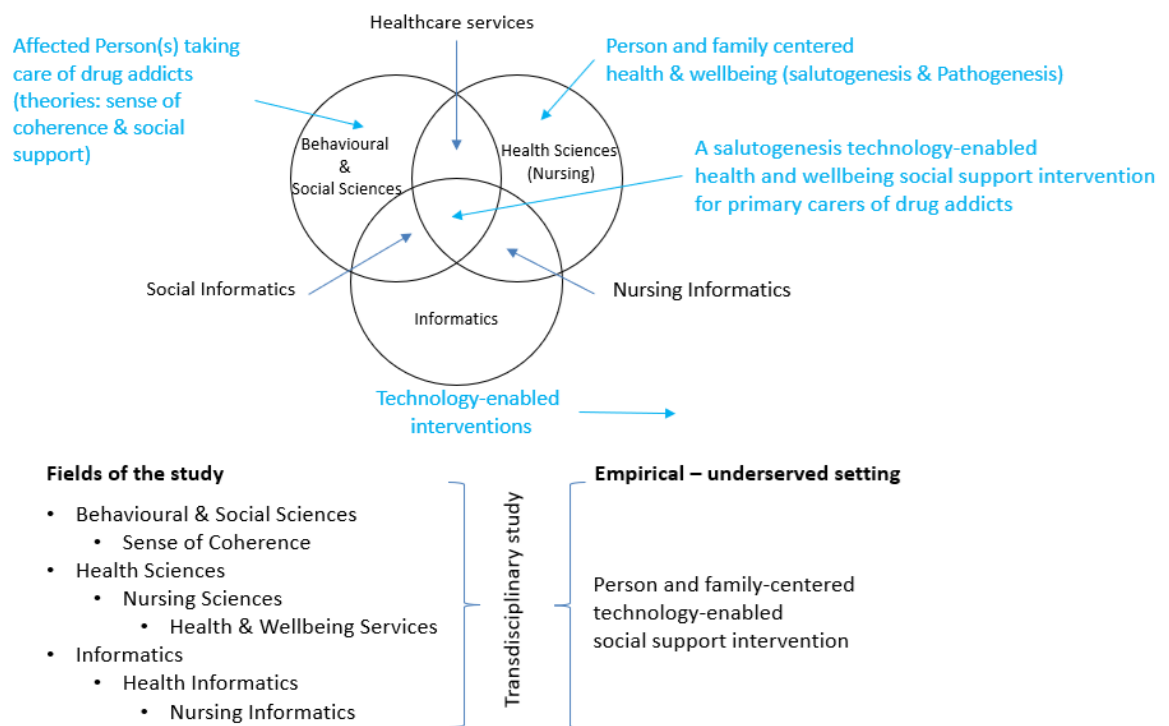


Figure 1: Disciplinary orientation

Research focus:

- Behavioural & Social Sciences: Examines concepts such as coherence and the impact of Social support on APs' mental and emotional health.
- Health Sciences (Nursing): Addresses care provision within nursing, prioritizing health-promoting services for APs in their caregiving roles.

- Informatics: Explores the role of technology in facilitating support, particularly in underserved communities.

Empirical context:

- The research is grounded in the realities of underserved settings where resources are limited, and support is often inadequate.
- By leveraging technology and interdisciplinary collaboration, the study seeks to enhance the resilience, health, and overall wellbeing of caregivers.

This interdisciplinary framework integrates Behavioural & Social Sciences, Health Sciences, and Informatics (as shown in Figure 1) to address the challenges faced by caregivers of individuals with substance use disorders. By focusing on person- and family-centred, technology-enabled interventions, the research strives to create meaningful, sustainable support mechanisms in underserved contexts. The study is underpinned by salutogenesis and the Social support theory.

1.3.2 Researcher positionality

Researcher positionality plays an important role in shaping the research process, particularly in sensitive studies like substance addiction. It refers to the researcher's self-awareness of how their personal background, beliefs, and professional experiences influence the research design, data collection, and interpretation of findings. In this study on PFCSS for the APs, the researcher's positionality was critically examined to ensure ethical integrity, objectivity, and authenticity.

A reflexive approach was integrated throughout the research process to balance the researcher's dual identity as both a sibling to an individual with substance addiction and a nurse with expertise in addiction counselling. This dual perspective enabled empathetic connections with participants while demanding rigorous self-examination to prevent personal biases from overshadowing participants' voices. The intersection of personal and professional identities profoundly shaped the researcher's engagement with the study.

As both a family member of someone struggling with addiction and a professional familiar with psychiatric care, the researcher brought an understanding of the emotional and psychological challenges faced by APs. This insider perspective facilitated trust and rapport with participants, providing deeper insights into their lived experiences. However, this closeness required continuous reflexivity to navigate insider-

outsider dynamics. The researcher consciously bracketed personal assumptions, revised interview guides, and practised active listening to ensure participants' narratives remained central. Reflexive practices such as member checking, triangulation, and critical self-reflection were employed to mitigate biases, validate findings, and maintain ethical rigor.

Navigating the emotional and logistical challenges of the research process highlighted the dynamic interplay between the researcher's positionality and the research context. Participants often exhibited familiarity by sharing gifts or extending invitations, which necessitated clear professional boundaries to prevent influence on data collection. Additionally, conducting research in underserved and high-crime areas heightened the researcher's awareness of contextual factors affecting both participant engagement and personal safety. Reflexive strategies allowed the researcher to manage these complexities, ensuring the study remained participant-centred and ethically grounded.

The researcher's positionality enriched the study by providing a lens for empathetic and contextually sensitive interpretation of data. Drawing from personal experiences, the researcher posed relevant and insightful questions that resonated with participants' realities. However, continuous reflexivity was critical to maintaining professional distance and ensuring the integrity of findings. By engaging in iterative self-assessment and embedding ethical considerations at every stage, the researcher upheld the validity of the study while navigating the dual challenges of emotional labor and professional boundaries. This approach aligns with the broader literature emphasising positionality as both an analytical tool and a foundation for ethical, participant-centred qualitative research (Muthanna & Alduais, 2023).

The nature of the researcher's personal and professional identities offered a unique interpretive frame, deepening the understanding of APs' experiences while necessitating rigorous reflexive practices. This study illustrates how positionality evolves dynamically in response to the research context and participants, ultimately contributing to a more empathetic, ethical, and nuanced exploration of substance addiction and its ripple effects on families. By critically engaging with positionality, the researcher ensured that the findings reflected participants' authentic voices, providing valuable insights into the potential of online digital interventions to address the needs of APs.

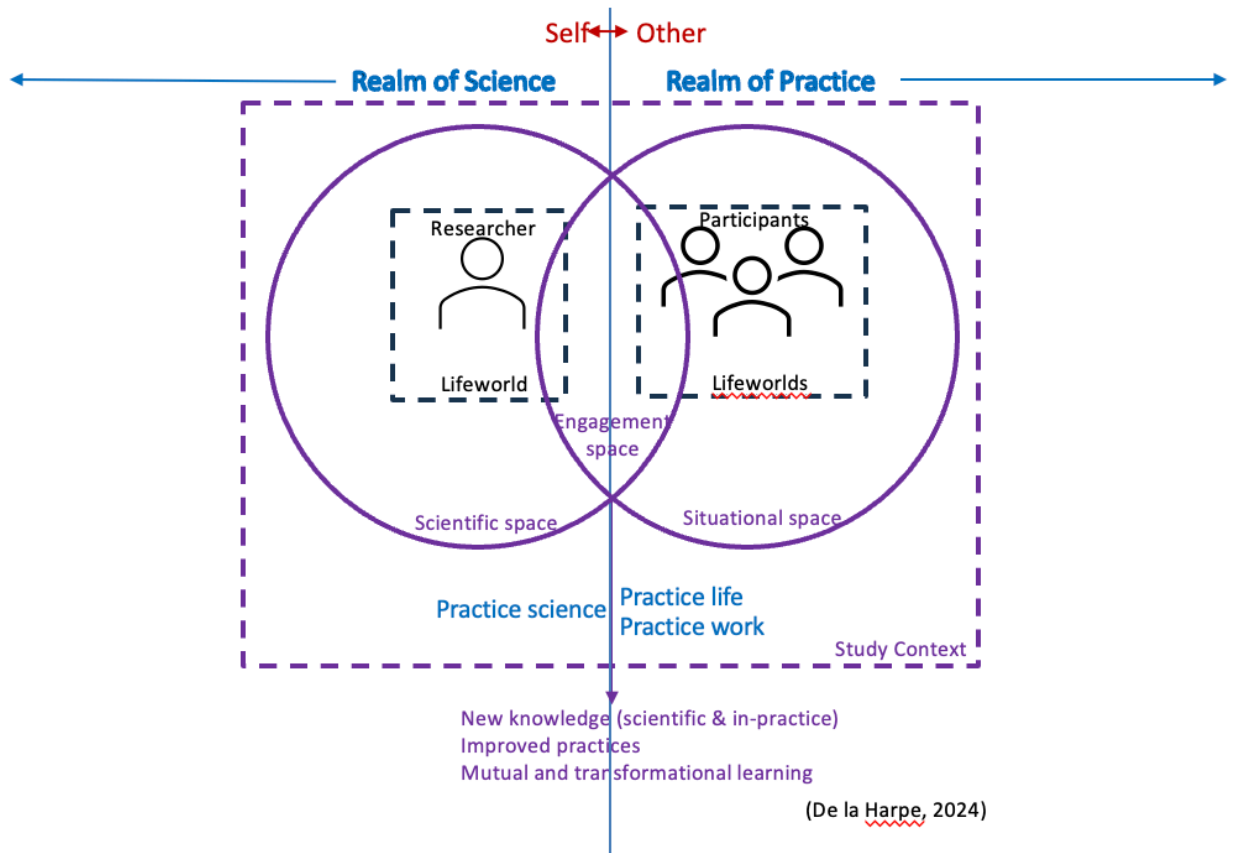


Figure 2: Researcher positionality

Figure 2 illustrates the interaction between the realm of science and the realm of practice, emphasising the overlapping engagement space where the researcher and participants collaborate.

The realm of science is represented by the researcher's "lifeworld" within a scientific space, focusing on generating theoretical and evidence-based knowledge. On the other hand, the realm of practice involves the participants' "lifeworlds" within a situational space, which centers on their lived experiences and practice contexts.

The engagement space, where these two realms intersect, facilitates mutual and transformational learning. This interaction leads to the development of new knowledge that integrates scientific and practical insights, resulting in improved practices. The study context unifies these realms to promote mutual understanding and collaborative progress, highlighting the dynamic relationship between practice science and practice work.

The diagram ultimately underscores the bidirectional flow between "self" (researcher) and "other" (participants), contributing to a holistic understanding of the subject matter.

1.4 Research questions and objectives

Research aim:

To explore APs' experiences and support needs while aiding individuals with addiction.

Research objectives:

- Explore while establishing APs' roles, challenges, and coping strategies while aiding individuals with addiction.
- Identify gaps in current support services for APs.
- Design eHealth interventions to enhance APs' well-being during aiding individuals with addiction.

1.5 Research questions

Table 1: Research questions and sub-research questions

Research question	Sub research questions
<p>RQ1: How do APs currently experience their lived situation while supporting individuals struggling with substance addiction?</p>	<p>SRQ1.1: How do APs perceive their role and responsibilities in supporting individuals with substance addiction?</p>
	<p>SRQ1.2: What emotional and psychological challenges do APs face while providing support to individuals with drug dependence?</p>
	<p>SRQ1.3: How does the lived experience of supporting someone with substance addiction influence the overall wellbeing of APs?</p>
	<p>SRQ1.4: What coping strategies do APs employ to manage the stress and emotional burden associated with their supporting role?</p>

<p>RQ2: What support services are currently available for APs supporting individuals with substance addiction?</p>	<p>SRQ2.1: What types of support services are currently accessible to APs, and how are these services delivered (e.g., in-person, online, helplines)?</p>
	<p>SRQ2.2: How do APs rate the effectiveness and adequacy of the existing support services in addressing their specific needs and challenges?</p>
	<p>SRQ2.3: What are the perceived gaps in the current support services, and what improvements or additions do APs suggest to enhance their support experience?</p>
<p>RQ3: How can digital interventions be effectively utilised to support APs and improve their wellbeing while caring for individuals with substance addiction?</p>	<p>SRQ3.1: What are the specific needs and preferences of APs in terms of receiving support through mobile health interventions?</p>
	<p>SRQ3.2: How can digital health applications provide personalised and interactive support to address the emotional, social, and informational needs of APs?</p>
	<p>SRQ3.3: What are the potential barriers and challenges in implementing digital health interventions for APs, and how can these be overcome to ensure accessibility and effectiveness?</p>

1.6 Research methodology and design

The philosophical position is first explained, followed by the proposed research design.

1.6.1 Philosophical position

The study is grounded in an Interpretive Design Phenomenological perspective for the proposed digital intervention, informed by a situational inquiry focused on lived experience. This requires a dual philosophical orientation: an ontological (worldview) stance that provides a multi-pragmatic approach, moving between the problem-understanding and problem-solving paradigms. Epistemologically, knowledge is created through observation and interpretation of human sense-making in lived experiences in a specific situation (Urquhart et al., 2020) and through engagement during the design process. During the design phase, knowledge is constructed through the collective making of the new design, associated

with the design action and intervention, and with constructive knowledge as an interplay between knowledge and action (Goldkuhl, 2012). Knowledge is constructive and is based on experience (Kaushik & Walsh, 2019). In addition, knowledge is also created through the researcher's reflection on their own growing insights into the phenomena studied, with a horizon of significance and being-in-the-world.

The philosophical roots are both phenomenology and design, with the research paradigms being interpretive (for problem understanding) and pragmatic design (for problem-solving).

The research questions for the interpretive part were formulated to:

- understand/uncover the lived experience of individuals (APs) in constant being-with-themselves and being-with-others. An interpretive phenomenological perspective (Kaushik & Walsh, 2019; Neubauer et al., 2019).

The research questions for the design part were formulated to:

- understand the principles of the digital intervention design and the design process with the APs' participation. Design research incorporating an interpretive perspective (Goldkuhl 2012; Jack 2017; Simon, 1996).

1.7 Theoretical considerations

After careful consideration, the following theories were selected to guide the situational inquiry and intervention design: Sense of Coherence and Social Support. These theories provided a lens to guide the data collection and analysis processes to obtain deeper and focused insights.

1.7.1 Sense of Coherence Theory

The study was guided by the SoC theory to frame APs' experiences within both psychological resilience and relational support contexts. The SoC theory served as a perspective to understand how participants made sense of, managed, and found meaning in the challenges of supporting loved ones with addiction (Antonovsky, 1987).

1.7.2 Social Support Theory

The Social Support Theory highlighted the role of emotional, informational, instrumental, appraisal, self-regulatory, esteem and companionship support in fostering coping and wellbeing (Cohen & Wills, 1985).

The integration of the SoC theory and Social Support theory provides a comprehensive and complementary framework for understanding the lived experiences of APs supporting individuals with substance addiction. The SoC theory explains how individuals perceive, manage, and find meaning in stressful life situations, and makes it particularly suitable for exploring APs' resilience, coping capacity, and psychological wellbeing. In contrast, Social Support theory focuses on the relational and interpersonal dimensions of support, highlighting the role of emotional, informational, instrumental, and appraisal support in promoting wellbeing. When combined, these theories enable the study to look at APs' internal coping mechanisms (SoC) as well as the external support networks that affect their well-being (Social Support).

By addressing the relationship between social ties and personal resilience, this integrated theoretical approach enhances the study's analytical depth. Additionally, the incorporation of these frameworks facilitates the development of a digital intervention that addresses both individual and relational support needs, aligning with the study's person- and family-centered perspective.

1.8 Research design

In the design-based research approach, quantitative and qualitative data will be assimilated. In the design-based research approach, different phases will be followed. The use of different data collection methods from different sources will enhance the credibility of the study. The proposed theories will be used as analytical lenses to focus on the aspects relating to the AP's wellbeing state. The co-design processes will involve the APs as active co-designers of a proposed digital support intervention based on their needs. The study is contextual to consider the environmental factors that influence the lived experience of the APs in the situation.

The study will be conducted over two phases as depicted below:

Table 2: The phases of the study

	Phase 1				Phase 2		
Activities	Baseline study	Needs analysis	Define service concepts	Requirements elicitation	Design user service touchpoints	Develop & test service prototype	Outcomes evaluation
Qualitative data	Lived experience, Diaries, Literature review	Contextual inquiry, stakeholder mapping, needs analysis	Brainstorm, ideation, online chat simulations	Interviews, conceptualising	Social media conversations and participation, touchpoint designs	Develop design concepts, user experience, user feedback	User experience, simulation outcomes

1.8.1 Phase 1: Baseline study

During this phase, a baseline study will be conducted to establish the current situation as experienced by the research participants. At the same time, the wellbeing state of individuals, access to technology, current support services, and identification of stakeholders involved in addiction support will be measured. The activities in this phase address the research objectives related to the first research question.

1.8.2 Phase 2: Co-design

During this phase, the needs and experiences of people supporting individuals suffering from substance addiction will form the basis of designing a new technology-enabled support service with their active participation. The ideas and design concepts identified through brainstorming activities that were deemed suitable for the new support intervention will be defined and developed into prototype intervention concepts. The participants will be able to test the proposed support intervention prototype. Design methods that support active participation will be used. This phase has iterative cycles of co-design activities that include reflection and refinement for subsequent cycles.

Qualitative research offers individual data about a phenomenon, environment, interactions, meaning and everyday life. The qualitative design will explore and describe the perceptions of the supportive individuals on their needs in supporting their loved ones suffering from substance addiction. Co-design activities will provide opportunities to discover the needs, pain points, and experiences of APs, then define

possible support intervention concepts. The preferred intervention concepts will be defined to form part of the proposed support service.

During this phase, the experiences and feedback from users of the new prototype support services will be analysed to determine whether the proposed support service will address the needs of the APs.

1.8.3 Population and sampling

A purposeful sampling method with maximum variance will be followed. An average of 10 participants (APs) will be used. The participants are considered target phenomenon-rich participants (APs with experience of supporting substance-dependent individuals).

The population under study can be referred to as an accessible population, as the researcher will have reasonable access to the selected study population. The participants of this study will include all individuals who support persons suffering from substance abuse. Participants who volunteer to take part in the study will be included in the sample as they are accessible (Montalvo & Larson, 2014).

Sampling involves the population selected to participate in a specific research project to generate an understanding of their perceptions. The accessible population will serve as an availability sample. The participants will be recruited from a partner NGO in the community, which will be one of the stakeholders for the proposed support service.

The inclusion criteria for participants are Individuals who have a relation with the substance addicted person (mothers, fathers, siblings, family relatives, friends, colleagues, etc.). Participants should own or have access to a mobile device and should be willing to use their personal mobile device as a tool to take part in the study.

1.8.4 Data collection

The co-design group of AP participants aims to participate in the study as co-designers of the proposed support intervention based on their own experiences and needs. The participants will be able to share their perceptions on the proposed service concepts and the co-design methods used. The number of sessions and duration of each session will depend on the group and whether a viable prototype support service can be developed. The research questions will guide the data collection with the design activities planned to reach the set milestones with the APs' participation and the open-ended questions that form

part of the situational inquiry and reflection aligned to the research objectives. The co-design sessions will be conducted at a safe, accessible local community venue. Sessions will be recorded, and field notes will be taken in order to support the data gathered from the voice recordings. Triangulation will therefore occur as data from audio recordings will validate field notes. Focus group sessions will be arranged when it is most convenient for the participants and the researcher.

1.8.5 Preparation for the field

The discussion will take place within the rural setting at the community space. The chairs will be well arranged in a circular sitting position to allow participation and to comply with the Covid pandemic regulations. The purpose of the study, with details about the aims and objectives of the study as well as voluntary participation with potential benefits and risks during data collection, will be explained to the participants. Written consent will be obtained from each participant before the commencement of the survey. Participants will provide written, voluntary informed permission. The purpose of the study will be explained to the respondents, and they will have the right to withdraw from participation at any stage.

1.8.6 Saturation of thematic analysis

The collection of the qualitative data will continue until themes have been theoretically saturated. This means that no new data and meanings will emerge and that the theme is saturated to be and representative of its properties (Bryman 2016).

1.8.7 Data collection

Data collection: The primary sources will be the co-design sessions and open-ended interviews complemented by other authentic methods of data collection, e.g., participant observations and design-based methods (diaries, experience mapping, etc.). Brainstorming will be the method for generating ideas for the proposed support intervention, and design probes, such as facilitated prompts, were used to guide the design activities. In addition, diaries, reflective journaling and other qualitative instruments will be used to encourage the participants to share their experiences and concerns. The co-design activities will be observed and the ideas and design concepts proposed will be collected.

A pilot study is a small representation of the study that is done on a few participants who meet the inclusion criteria (Botma et al., 2010). The pilot study was conducted over a period of one month with five participants who met the inclusion criteria to test the usability and functionality of the online platform

(BEACON of Hope). Participants were encouraged to provide feedback and suggestions regarding navigation, clarity, and overall user experience. The feedback obtained from the pilot study was used to refine and improve the platform prior to implementation in the main study.

1.8.8 Data analysis

In phase 1, the qualitative data were analysed using a thematic process based on a hermeneutic/interpretive approach by categorising and ordering data to derive themes (thematic analysis). In phase 2, data relating to In-situ making and sense-making through an interplay between action and knowing were analysed.

The units of analysis for the study were: The APs' wellbeing, and sense of coherence states; the AP as an individual (Me) with a wellbeing state and lived experience; the AP in the family setup (Me+) and the collective experience and wellbeing of the relationship aspects; and the AP in the community setting (Me++). The APs' interaction with the intervention at the intervention touchpoint also provided insights, as did the APs' experience using the online platform to analyse the interaction between the AP and technology.

Data analysis is the systematic organising and synthesising of collected research data (Polit & Beck, 2021). The data analysis responds to the research questions, purpose, and framework of the study. The instrument items generated the measures to be analysed. The stakeholder mapping and contextual inquiry generated data relating to the context and stakeholder involvement. Data are presented in tables, diagrams, and figures. The process of analysing qualitative data according to Tesch's (1990) method was followed.

1.8.9 Validity and reliability

Content validity assesses how accurately the instrument embodies all the different components of the phenomenon to be measured, as in the development of questionnaires. A literature review identified the essential aspects of the phenomenon to be included in the instrument (Brink & van Rensburg, 2022). The instrument was piloted on five (n=5) participants who met the inclusion criteria. The reliability of the instrument was boosted as the questions posed were relevant to the study- this means that the questions were understood by the APs. Validity cannot be achieved without reliability in research (Polit & Beck, 2021).

1.8.10 Trustworthiness

Lincoln and Guba (1985), as cited in Pandey and Patnaik (2014:5746), explain that trustworthiness in qualitative research and reliability and validity in quantitative research can be enhanced by establishing the following four (4) criteria:

Credibility: This alludes to assurance in the truthfulness of data and the interpretation thereof. It involves two (2) aspects, which are: (1) including executing the study in such a manner as to create authenticity of the findings, and (2) ensuring steps demonstrating credibility in the research results are present (Anney, 2014). Credibility was achieved through engagement with participants during focus group sessions and in-depth interviews in phase one.

Dependability: It focuses on the steadiness of the data. This implies that, should a research question be repeated with the same or similar participants in the same or similar contexts, the expectation is that the results should be more or less the same. The researcher left an “audit trail” to ensure that dependability occurred, should the need arise to verify data at any stage of the data analysis process.

Conformability: This will be ensured by two or more independent persons confirming that the data is accurate, relevant, and has meaning. A joint coding process was used to ensure the accuracy of themes, their interpretations, and the study’s conclusion. It was done by the researcher and supervisor by discussing the meaning of the data.

Transferability: Transferability is the degree to which the findings of the study can be applied to another group or setting. The researcher has the responsibility to provide enough descriptive data to place consumers in a position to evaluate how relevant the data will be in another context. Descriptions of the participants, research setting, focus group sessions, and in-depth interviews are available as evidence for others to be used (Polit & Beck, 2021).

1.9 Ethics

The research proposal and instrument were submitted to the Ethics Committee of the Faculty of Informatics and Design at the Cape Peninsula University of Technology to obtain permission to commence the research. The researcher ensured that the participants were not manipulated by others during their participation in the study. Written voluntary informed consent was obtained from the participants, and the purpose of the study was explained to them. They were also informed of their right to withdraw

consent at any stage of the research. The researcher ensured that no harm would be caused to the participants during their participation in the study. To protect the confidentiality and anonymity of the participants, no personal information that could identify them was collected. Data collection took place in the privacy of the participant's location, and each participant was allocated a unique code number to ensure complete anonymity. Access to the data was restricted to only the researcher and supervisor, and all data, as well as a master list of participants' names and code numbers, were kept under lock and key. The data was retained for at least two years after the publication of the results and was then destroyed. The signed consent forms were stored separately from instruments and other data collecting tools to maintain confidentiality. The researcher conducted the research according to international ethical practices. The study aimed to contribute towards the scientific body of knowledge and disseminate the findings to the relevant target audiences with the ultimate goal of generating insights and making a positive impact on the support services available to individuals supporting substance-dependent persons in underserved communities. A detailed consideration of ethics can be found in 3.6.

1.10 Assumptions

This study builds upon the assumption that a shift towards online digital interventions has the potential to address the multifaceted challenges faced by APs of individuals with substance addiction. It assumes that APs experience significant psychological, emotional, social, and financial distress, which is exacerbated by the stigma associated with substance abuse and the limited availability of support services in underserved communities. Furthermore, it presumes that the inclusion of APs in substance abuse treatment programmes could lead to improved outcomes for both the addict and the APs. It is also assumed that leveraging digital health technologies can provide innovative, accessible, and interactive support mechanisms tailored to the unique needs of APs, particularly in rural and resource-limited settings. Lastly, the study assumes that understanding the lived experiences and perceptions of APs will inform the development of effective online interventions that align with the principles of salutogenesis, thereby fostering resilience and coherence in their caregiving roles.

1.11 Delineation

This study operates under well-defined parameters to ensure a targeted and controllable scope. It highlights an in-depth understanding of the important factors while ensuring an insightful investigation of their interactions with one another. The goal of the research is to offer insightful perspectives based on

detailed empirical investigation and significant theoretical frameworks. By restricting the research to particular groups or conditions, the study ensures that its conclusions will be important and widely applicable, giving the field noteworthy results that are consistent with its core goals.

1.12 Anticipated main findings

According to this study, the emotional, psychological, and social challenges that APs who assist people with substance addiction face seriously jeopardise their general wellbeing. APs frequently take on a great deal of caregiving duties, serving as emotional support systems and healthcare system navigators while dealing with stigma, loneliness, and restricted access to formal support services. The results show that APs mostly use non-formal coping mechanisms including faith, family support, and self-care, which are beneficial but insufficient to deal with long-term stress and burnout. Online social support interventions conducted by peers have become a successful strategy for building resilience, lowering feelings of loneliness, and creating secure environments for sharing emotions. The study clearly identifies barriers to the adoption of digital health, such as issues with digital literacy, cost, and privacy, but it also demonstrates how well-designed, culturally sensitive, and easy-to-use platforms can enhance accessibility, engagement, and the results of caregiving. All things considered, the study offers fresh theoretical, methodological, and practical perspectives, highlighting the necessity of technology-enabled, person-and family-centred treatments to improve the quality of life, resilience, and sense of coherence of APs.

1.13 Conclusion

The development of the online peer-led social support platform highlights the need for creating a safe and inclusive digital environment. By addressing common stressors through targeted support mechanisms and utilising interactive engagement tools, the platform illustrates its potential to meet diverse user needs while fostering sustained participation. These elements collectively contribute to promoting emotional wellbeing and effective stress management, offering an expandable solution to address mental health challenges in a connected yet accessible manner. Future directions underscore the importance of assessing the platform's long-term impact through longitudinal studies to determine its influence on mental health outcomes over time. Similarly, exploring its effectiveness across different demographics, such as age, gender, and cultural backgrounds, will ensure its relevance to a wide user base. These insights pave the way for continuous refinement and innovation in online peer-led support systems.

1.13.1 Contributions

The platform represents a significant advancement in integrating digital tools into online peer-led mental health interventions. By incorporating targeted support strategies and emphasising inclusivity, it serves as a means for addressing diverse stressors and fostering community engagement. Its design and development contribute to the growing field of digital mental health, providing practical insights into the creation of user-centred, accessible solutions. Moreover, this research offers a foundation for future research aimed at enhancing engagement among less active users, improving accessibility for individuals with varying digital literacy and disabilities, and integrating user feedback systematically. Comparative analyses with other mental health interventions will further refine its effectiveness, establishing benchmarks and identifying best practices. Jointly, these contributions lay the groundwork for transformative changes in digital health support, making meaningful impacts on users' lives and advancing the broader field of mental health care.

1.13.2 Summary

Chapter 1 introduces the challenges faced by APs. It highlights the global concern of substance abuse, particularly MA or "tik" usage, which has escalated in regions such as South Africa. The chapter underscores the significant psychological, social, and financial burdens that APs face as they care for individuals battling with substance abuse, including increased stress, anxiety, and depression. The study acknowledges the insufficient support for APs in underserved communities and aims to develop a comprehensive, person- and family-centred intervention model to address their needs. This research is positioned within an interdisciplinary framework that integrates Behavioural & Social Sciences, Health Sciences (Nursing), and Informatics, aiming to create a technology-enabled support system for APs. The study's core objective is to design an intervention that improves the wellbeing of APs by providing the necessary tools and support, particularly in under-resourced environments.

1.14 Chapter layout

This study is organised into seven chapters (Figure 3). Chapter 1 introduces the research, outlining the background, problem statement, objectives, research questions, and significance of the study. Chapter 2 provides a review of existing literature, identifying gaps and establishing the theoretical and conceptual frameworks. Chapter 3 explains the research methodology, including the design, data collection methods, and ethical considerations. Chapter 4 presents and analyzes findings from the first phase of the study.

Chapter 5 focuses on the second phase of the research, detailing its results and analysis. Chapter 6 discusses the overall findings, linking them to the literature and study objectives. Finally, Chapter 7 concludes the study by summarizing key findings, outlining recommendations, and reflecting on the study's limitations and contributions.

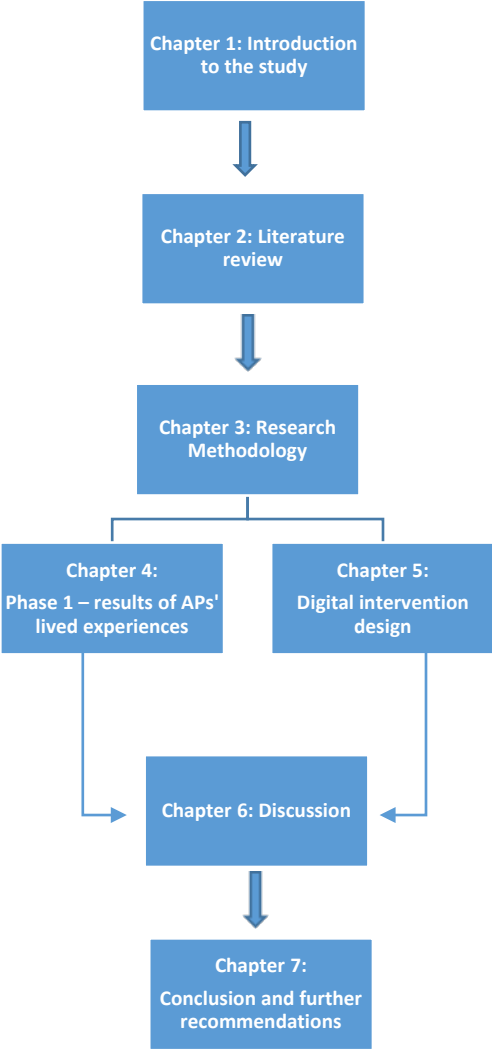


Figure 3: Thesis chapter layout

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Chapter 2 delves into the existing literature surrounding the critical aspects of substance abuse and its impact on APs and their families, particularly in the South African context.

With a growing emphasis on person-centred healthcare, it becomes imperative to explore the psychological and physical wellbeing of APs who support individuals struggling with substance dependency. APs often experience diminished psychological wellbeing, heightened stress levels, and various manifestations of mental health challenges such as depression and anxiety.

The prevalence of substance abuse, notably methamphetamine (MA), presents a global concern, with significant proportions of users concentrated in specific regions. Despite its widespread impact, there remains a dearth of research, especially concerning underserved communities.

In South Africa, where substance abuse rates are alarmingly high, the dynamics between individuals and healthcare professionals significantly influence health-seeking behaviors. Furthermore, disparities in healthcare access between urban and rural areas exacerbate the challenge, echoing findings from various African countries (World Health Organization, 2022).

The demographic and societal landscape of South Africa further compounds the issue, with a young population increasingly vulnerable to substance dependency. The rising prevalence of MA abuse in the Western Cape, particularly in Cape Town and neighbouring regions, underscores the urgent need for comprehensive intervention strategies. However, existing governmental structures often fall short in addressing this burgeoning crisis.

In this context, APs emerge as pivotal stakeholders whose wellbeing directly impacts the effectiveness of substance abuse interventions. Yet, their experiences remain largely overlooked. By understanding the perspectives and challenges faced by APs, particularly in areas with limited support services, we can inform the development of more holistic and effective interventions.

The emergence of technology-enabled services, such as MobieG in South Africa, exemplifies innovative approaches to addressing healthcare needs, including substance abuse support (MobieG, 2025). Through chat-based counselling and comprehensive online platforms, initiatives like MobieG demonstrate the potential of leveraging technology to expand access to crucial support services.

In light of these insights, this chapter aims to review and synthesise existing literature to provide a comprehensive understanding of the impact of substance abuse on APs and their families. By elucidating the challenges and unmet needs of this population, we can inform the development of tailored interventions and support systems, ultimately contributing to more effective strategies for addressing substance abuse in South Africa and beyond.

Chapter 2 is organised to offer a thorough examination of substance abuse, health, and the support networks for APs. It discusses health, highlighting person-centred care (PCC), the salutogenic model, and the role of nursing, including the nurse's engagement with both addicts and their caregivers. Substance misuse in the international, low- and middle-income countries (LMIC), and at local levels is next examined as the chapter dives into the Public Health Aspect of the Global Drug Problem. With an emphasis on personality qualities and how APs handle their circumstances, it further investigates the interactions between substance-dependent people and their supporters. The Health and Wellbeing section covers general health contexts, the unique challenges faced in LMICs, and the combined effects of pandemics, including psychological and financial repercussions. After that, the topic of health and wellbeing services is covered - this includes rehabilitation and other support services, covering approaches designed for pandemic situations. The wellbeing of APs is also highlighted in this chapter, with particular attention paid to their specific requirements and the resources for help that are available. The next section examines the integration of digital health, including nursing informatics, health information technologies, and the use of social media and online platforms in offering support and rehabilitative services, particularly in times of crisis.

In addition to the SoC framework, this chapter is also informed by the Social Support Theory, which emphasises the importance of emotional, informational, instrumental, appraisal, esteem, companionship, and self-regulation support in promoting individual wellbeing. The Social Support Theory is particularly relevant to this study, as APs often rely on interpersonal relationships, community networks, and professional services to cope with the emotional and practical demands of supporting a substance-dependent individual. The theory provides a lens to understand how supportive interactions buffer stress,

enhance coping capacity, and influence health outcomes. Within the context of this research, the Social Support Theory complements the salutogenic perspective by drawing attention to the relational and contextual dimensions of wellbeing, thereby strengthening the theoretical foundation for exploring APs' experiences and for designing a person-centred, digitally enabled support intervention. The chapter ends with a Proposed Conceptual Framework that is based on Antonovsky's Sense of Coherence (SoC). It describes the three components of SoC - meaningfulness, manageability, and comprehension—and how they relate to APs' mental health and wellness. By summarising these conversations, the chapter ends and lays the groundwork for the study's subsequent phase.

2.2 Health

Addressing concerns that surpass national borders and influence people regardless of where they live or their socioeconomic status, global health is a comprehensive profession which focuses on the health and wellbeing of communities worldwide. It highlights how physical, mental, and social health are intertwined and acknowledges that interdisciplinary, cooperative approaches are necessary to address global health issues. Global health, rooted in values of equity and inclusivity, aims to understand and address the many facets of health outcomes by cultural, economic, environmental, political, and social factors. By taking a comprehensive approach, it encourages methods that improve general health and prevent illness, building self-management and resilience across a range of demographics.

Global health refers to the health of populations worldwide, encompassing both physical and mental health (McGinty et al., 2024). It involves addressing health issues that transcend national boundaries and affect people globally, regardless of geographical location or socioeconomic status. It goes beyond national boundaries and focuses on transnational health issues, determinants, and solutions.

This approach involves collaboration between various disciplines, both within and beyond the health sciences, to address the complex challenges of global health (Zinsstag et al., 2023). The concept of health in global health encompasses more than just the absence of illness. It aligns with the World Health Organization's definition of health as a state of complete physical, mental, and social well-being.

Thus, improving health requires attention to all these dimensions, emphasising both prevention and care (WHO, 1973). Global health issues encompass a wide range of factors that extend beyond the boundaries of healthcare facilities. They involve cultural, economic, environmental, infrastructural, political, social, and technological aspects.

Addressing these multifaceted challenges necessitates collaboration and interdisciplinary efforts to devise comprehensive solutions (Kanai & Kumazawa, 2021). Collaboration among different sectors and organisations is essential in achieving effective global health solutions. No single entity can tackle these complex challenges alone (Hugo et al., 2021).

Moreover, there is a growing recognition of the subjective nature of health and wellbeing. The ability to adapt and self-manage in response to individual circumstances is now considered a vital aspect of health. Health and wellbeing are context-dependent and can vary from person to person based on their unique needs and situation (Koehly & Manalel, 2023).

In conclusion, global health encompasses a wide range of issues and requires a collaborative, interdisciplinary approach to address the complexities of improving health and achieving health equity worldwide. It recognises health as a multidimensional concept, with individual adaptability and self-management playing key roles in overall wellbeing. This holistic understanding of health informs the pursuit of comprehensive solutions to global health challenges.

2.2.1 Critical engagement in health

Grasping the complexities of health concerns that cut beyond national borders requires a careful and analytical approach, which is necessary for active engagement in global health. This entails aggressively challenging accepted conventions, laws, and procedures keeping in mind the larger cultural, social, political, economic, and environmental elements affecting health outcomes globally. Critical engagement promotes a more thorough exploration of the underlying causes of health disparities, such as structural injustices, power dynamics, and historical settings that continue to influence global health landscapes, as opposed to taking health data and solutions at face value. This method stresses the necessity of questioning prevailing viewpoints and taking into account a range of voices, especially those from low- and middle-income countries (LMICs), where health issues are frequently the most severe but are not well-represented in the debate on global health (Meara, et al., 2014).

Global health concerns cannot be resolved by medical or scientific methods alone and require an interdisciplinary approach to critical engagement. For comprehensive, long-lasting solutions, cooperation between medical professionals, legislators, economists, sociologists, environmentalists, and community stakeholders is necessary. This method additionally raises the question as to who gains from policy, who is left out, and how resources are allocated, highlighting the moral dimensions of global health. For

example, for critical participation in substance addiction research, structural variables such as poverty, stigma, lack of education, and limited access to healthcare, in addition to individual behaviours, should be considered. It encourages evidence-based, equitable, culturally aware, and community-driven policies (Lin, et al., 2024).

Reflecting on the evolving nature of health and wellbeing while acknowledging that these ideas are subjective and situational is another aspect of critical engagement. It advocates structures that complement these abilities while still acknowledging the growing significance of personal mobility and self-management. Critical participation necessitates resilient, adaptable, and inclusive health initiatives that can evolve with the times in the face of global disasters such as pandemics, climate change, and mental health epidemics.

Critical engagement encourages a global health practice that is not just well-informed, self-reflective and transformative, but aim for long-term solutions that place social justice, health equity, and the empowerment of marginalised groups first (Schilling & Gerhardus, 2024).

2.2.2 Person-centred care

PCC originated in the field of humanistic psychology and it emphasises the importance of managing patients in a way that acknowledges and supports their individual needs and preferences. PCC empowers patients to be proactive in their own care and decision-making, and their lived experiences are valued sources of information (Moumjid et al., 2022).

PCC has gained increased attention in healthcare, focusing on the psychological health of individuals rather than just the disease. It has been associated with good care, treatment, and improved quality of life (Tracy et al., 2022).

Countries such as Australia and France have recognized the importance of PCC and have implemented programmes to promote patient participation in decision-making and the involvement of family members and informal caregivers in healthcare (Moumjid et al., 2022; Tracy et al., 2022).

In the mental health context, PCC considers patients' thoughts, feelings, and experiences and emphasises the importance of therapeutic relationships for adherence to treatment and better outcomes (Jakovljevic, 2021).

Informal caregivers, such as family members supporting individuals with physical and mental illnesses, play a crucial role in long-term care. However, caregiving can also take a toll on their psychological wellbeing, leading to anxiety and loneliness (Nissim & Hales, 2022).

PCC is also extended to informal caregivers to support them in their role and enhance collaboration with healthcare providers (Wasim et al., 2023). PCC for informal caregivers does not shift the responsibility of care from healthcare providers to the caregivers; instead, it aims to enhance collaboration and support for the caregivers in their role (L'Heureux et al., 2022; Wasim et al., 2023).

The study investigates the use of PCC in supporting patients and caregivers for free, emphasizing the importance of addressing their holistic needs to enhance overall wellness and maximize healthcare outcomes. By fostering collaboration between healthcare professionals, patients, and caregivers, PCC has the potential to improve psychological health, treatment adherence, and overall quality of life. This approach highlights the significance of patient involvement and active participation in care, ensuring that healthcare strategies are tailored to individual needs and preferences. Recognised as an essential method for improving the wellbeing of patients and caregivers while optimizing healthcare resources, PCC promotes a comprehensive view of health that extends beyond treating illness. To further contextualise the value of strength-based approaches in healthcare, the concept of salutogenesis will be explored next, as it complements person-centred care by focusing on factors that support health and wellbeing rather than solely addressing disease.

2.2.3 A salutogenic focus

The theory of SoC was developed by Aaron Antonovsky in 1979 to explain why some individuals remain healthy under stress while others become sick. SoC is part of the salutogenic approach, which focuses on factors that promote health and wellbeing rather than just the causes of disease. According to Antonovsky, SoC consists of three elements: comprehensibility (cognitive), manageability (instrumental), and meaningfulness (motivational). It refers to an individual's ability to understand situations, use available resources effectively, and employ coping strategies (Danatzis et al., 2022). When an individual perceives stimuli as exceeding their resources and threatening their wellbeing, it is considered a stressor. The strength of SoC depends on the presence of generalised resistance resources (GRRs), which are characteristics that influence stress management positively or negatively. Experiences that enhance SoC are linked to comprehensibility, manageability, and meaningfulness (Antonovsky, 1987). Salutogenesis emphasises the interaction between physical, mental, social, and spiritual factors in health studies and

provides a foundation for strategies that focus on resources to promote psychological wellbeing (Eriksson, 2022). For individuals supporting people with substance addiction, their SoC plays a crucial role in determining their quality of life and promoting wellbeing (Möllerberg et al., 2019).

Personality characteristics and related traits, such as optimism, positivity and resilience can have an influence on caregiver outcomes (Mossman et al., 2024; Subramanyam et al., 2024). SoC is a crucial determinant of psycho-social health and has a significant impact on caregivers' wellbeing and higher levels of SoC are associated with reduced subjective burden and fewer symptoms of depression and anxiety among caregivers. Therefore, caregivers with higher SoC levels are better able to manage daily activities, while those with lower levels are more likely to report a history of previous anxiety and depression, which may contribute to lower SoC levels (Mas-Casadesús et al., 2024). Social support can increase SoC levels and promote emotional support seeking and acknowledgement. Emotional support is essential for personal strength and coping, and it can protect against distress (Christou-Ergos et al., 2024). Interventions for informal caregivers should focus on meaning and control to directly impact their wellbeing (Amonoo et al., 2024). Further research is needed to understand how SoC influences caregivers' health, and how higher SoC levels can lead to lower psychological stress and higher emotional wellbeing in the context of caregiving.

2.3 Nursing

According to the World Health Statistics Report, there are approximately 29 million nurses and midwives worldwide, and the United States alone has 3.9 million. As of 31 December 2019, the South African Nursing Council (SANC) had 286,116 nursing personnel registered (Matseke, 2023). Nurses play a critical role in strengthening healthcare systems and have gained significant attention worldwide for their potential to improve service quality and outcomes, especially in underserved communities. Nurses offer several benefits to the healthcare system, including addressing the health needs of current and future patients, tackling global health challenges, reducing preventable deaths, and enhancing health access across all age groups (Msuya et al., 2022). They are crucial in achieving universal health coverage and contributing to the United Nations Sustainable Development Goals (Adynski et al., 2024). In underserved areas where there are no qualified providers available, nurses often work beyond their scope of education to provide essential care (McCullough et al., 2022).

Nurse practitioners (NPs) are Advanced Practice Nurses (APNs) who blend clinical expertise with a focus on disease prevention and health management. NPs play a comprehensive role in healthcare, taking on

both independent and collaborative responsibilities, including leadership in clinical situations and management roles (Rainey & Monaghan, 2022). They also contribute to reducing healthcare costs, as patients who receive nursing care have fewer emergency room visits, and their hospital stays are shorter (Detollenaere et al., 2022). With their clinical expertise and personal touch, NPs play a vital role in enhancing patient care and healthcare outcomes.

2.3.1 Nursing and the individual suffering from addiction

In global contexts, many programmes addressing substance addiction management are led by nurses (Kebeh et al., 2023), which positions these health professionals as central figures in the care of individuals struggling with addiction (Kratovil et al., 2023). Nurses' availability and access make them a durable and essential solution for patients seeking help with addiction. The nursing care received by patients in medication-based programmes significantly influences their quality of life, as nurses are responsible for administering medication and providing nursing consultations (Asadi et al., 2023). Substance addiction has severe consequences that impact an individual's health status and social functioning (Dannatt et al., 2021). These consequences can be categorized into psychological and family factors, self-care factors, physical and cognitive factors, and economic and labour factors. Nursing care has been shown to positively impact many of these indicators, highlighting the sensitivity of these factors to the support provided by nurses (Shaban et al., 2024). The severity of the addiction problem is a significant driver for seeking help and participating in addiction management programmes, as it directly affects an individual's quality of life. The involvement of nurses in these programmes plays a crucial role in enhancing the wellbeing and outcomes of individuals struggling with substance addiction (Abram, 2024).

2.3.2 Nursing and the informal caregiver or AP

Substance addiction has profound consequences on families and individuals, leading to impairment in their daily functioning (Özdemir & Senol, 2022). As a result, nurses are required to respond to these emerging factors with appropriate interventions (Shaban et al., 2024). The psychological distress and social exclusion caused by anxiety, difficulty maintaining employment, sadness, self-supporting challenges, and problems in family relationships are significant issues faced by affected individuals. Among these challenges, problems with family relationships are considered the most severe (Pirzadeh & Parsakia, 2023). Families supporting their loved ones suffering from substance addiction often face stigmatisation (Kane, Snethen et al., 2023) which undermines their ability to provide support while maintaining their own wellbeing (Mardani et al., 2023). The nursing profession plays a vital role in addressing these

challenges and supporting both individuals and families affected by substance addiction. Nurses' expertise and intervention can significantly contribute to alleviating the psychological and social burdens experienced by these individuals and their families.

2.4 The public health dimension of the world drug problem

The public health dimension of the world drug problem is a critical aspect that requires comprehensive and evidence-based approaches. Drug abuse and addiction present significant health challenges, leading to adverse consequences on individuals, families, and communities worldwide. Effective public health strategies are essential to address the prevention, treatment, and harm reduction related to drug use and its associated health risks. These strategies encompass a wide range of interventions, including prevention programmes targeted at vulnerable populations, accessible and evidence-based treatment services, and harm reduction initiatives such as needle exchange programmes and medication-assisted treatment. The World Health Organization (WHO) and the United Nations Office on Drugs and Crime (UNODC) play vital roles in shaping global drug policies and promoting evidence-based public health approaches to tackle the world drug problem (WHO, 2019). Collaboration between governments, international organizations, and stakeholders is crucial to address the public health challenges posed by drug abuse and contribute to building healthier and more resilient societies.

2.4.1 Substance abuse

Every year, half a million people lose their lives due to drug use, and in most instances, these fatalities are avoidable by adopting straightforward and cost-efficient approaches (WHO, 2024). Additionally, a significant 75% of the global population lacks sufficient access to pain relief and palliative care, leading to needless suffering for millions of patients and their loved ones. 31 million individuals suffer from drug usage disorders and most people don't get the proper management they need; only a few do (WHO, 2019).

In the United States of America (USA), premature mortality is associated with alcohol and substance abuse, among other contributing factors (Jordan, 2021). Finding effective treatments for substance usage disorders (SUDs) remains a pressing public health concern (Hogue et al., 2022). In 2011 in the United Kingdom (UK), it was reported that there had been a 75% rise in the rate of patients being re admitted to hospital since being discharged. This was as a result of poor mechanisms in social care in spite of numerous state commitments (Jordan, 2021). Support groups such as Alcoholics Anonymous (AA), Narcotics

Anonymous (NA), and Self-Management and Recovery Training (SMART) play a crucial role in assisting individuals with addiction problems on their path to recovery. However, these traditional services faced interruptions during the pandemic (Naja et al., 2023), which has exacerbated the global and steadily increasing phenomenon of substance addiction.

Substance dependency recovery often takes place outside traditional settings and is marked by relapse and repeated treatment, potentially influenced by social contexts that trigger substance usage (Pomrenze et al., 2022). Post-recovery, challenges related to family and Social relationships persist, and access to recovery social services is critical to enabling a smooth reintegration into Society (Shaver et al., 2023). The recovery process for substance dependence is impacted by individual, family, and community-level factors (Witkiewitz & Tucker, 2024), making a PCC approach essential to addressing the psychological, physical, and social aspects affecting recurrence and rehabilitation. Involving peer workers who have lived experiences and understand the challenges faced by those in recovery can be highly beneficial (Oostermeijer et al., 2024). These peers, or "experientially credentialed" individuals, foster mutual connections, encourage hope, and create a power balance that increases participation (Oostermeijer et al., 2024). They complement formal treatment and clinical management and act as catalysts for better outcomes (Maddock et al., 2024). Clinical trials have shown that support treatment integrated with social services leads to higher abstinence rates compared to standard care alone (Evins et al., 2023).

Stakeholder involvement in integration into society further aids in achieving positive outcomes (Agboola et al., 2023). In conclusion, addressing substance addiction and facilitating long-term recovery requires a multifaceted approach, encompassing support groups, patient-centred care, peer support, and stakeholder involvement to help individuals reintegrate into society successfully.

2.4.2 Substance abuse globally

Substance abuse has emerged as a significant social problem worldwide, with growing trends in substance usage (Ball et al., 2024). The United Nations Office on Drugs and Crime's World Drug Report (2021) highlights the increasing instances of drug and substance abuse, revealing that approximately 275 million people consumed drugs globally in 2020, and around 36 million individuals suffered from drug use disorders. Notably, low-income countries have experienced a substantial rise in drug abuse, projected at approximately 43% higher than their middle-income counterparts, who experienced a projected decline of 1%. Africa is particularly affected by drug abuse, with the report estimating a 40% increase in drug abuse on the continent by 2030. The availability, accessibility, and affordability of substances are

identified as major contributing factors driving substance abuse (Ali et al., 2021). Substance abuse is a global issue, affecting not only developing countries but also developed nations with extensive fundraising mechanisms (Bala & Kangethe, 2021). Statistics reveal that drug abuse has become a pervasive problem, impacting every country and causing detrimental effects at both individual and national levels (Chueng et al., 2022). Addressing this issue requires comprehensive efforts at the local, national, and international levels to combat the ravaging consequences of substance abuse on societies worldwide.

2.4.3 Substance abuse in LMIC

The environments in which children grow up have a significant impact on their life trajectories and outcomes. Adverse childhood experiences (ACEs) refer to negative events that children may experience, including abuse (psychological, sexual, or physical), neglect, or traumatic experiences (Maina et al., 2021). Exposure to ACEs has been linked to various mental health disorders such as depression, attempted suicide, and drug abuse (Thyberg & Lombardi, 2022). Additionally, individuals exposed to ACEs are more likely to have a family history of alcoholism (Wu et al., 2022). Dysfunctional homes, characterized by domestic violence, parental separation, and household criminality, are often environments where ACEs occur, increasing the risk of individuals suffering from substance abuse. This connection between adverse childhood experiences and substance abuse is also influenced by factors such as social rejection and poverty (Frank et al., 2022; Pageau et al., 2022). The harmful effects of substance abuse extend beyond the individual and impact society as a whole, as those struggling with substance abuse may be unable to make viable contributions to their communities (Ahmad et al., 2022). Consequently, addressing adverse childhood experiences and providing support to those at risk of substance abuse are crucial steps in creating healthier and more productive societies.

2.4.4 Substance abuse locally

In the South African context, social problems such as murder, assault, rape, robbery, and domestic violence, sexual offences against children, road traffic deaths, and injuries due to reckless driving are resulting in significant costs (Naeem, Yousaf et al., 2023). Moreover, the country has experienced an alarming increase in substance abuse, with homemade drugs causing widespread destruction of lives (Bala & Kangethe, 2021).

Addressing substance abuse is essential for achieving the Sustainable Development Goals (SDGs), specifically SDG number 3, which focuses on good health and well-being. In developing countries like

South Africa, where substance abuse is a pandemic, a collaborative effort between the government and the business sector is crucial to achieve the SDGs. As the South African government faces resource constraints, the synergy between the state and businesses against substance abuse becomes ever more critical. Several business entities have already joined the fight against substance abuse through their corporate social investment policies (Bala & Kangethe, 2021). Despite efforts, the authors Bala and Kangethe (2021) express concern that the South African government is currently losing the battle against substance abuse. The situation demands urgent attention and a concerted effort from all stakeholders to address the escalating issue of substance abuse in the country.

2.5 Substance dependent individuals and their supporters

Personas can be understood as the public expression of a protected identity and the enactment or performance of a personality within the social world. These personas are observable in the way individuals present themselves to others (Andrews, 2021). The term "persona" refers to a strategic identity that individuals adopt to negotiate their place in the social world. It involves constructing a fabricated representation of oneself to play a specific role, which helps individuals navigate their interactions with others and also aids the collective in understanding and positioning that person's role within society (Osorio et al., 2024). Drugs, on the other hand, are substances that can cause distinct physical or psychological effects, altering a person's normal bodily functions, mood, or consciousness. Addiction, in particular, is a coping mechanism for those who suffer from it. While it may provide some gratification, it comes at a cost, including strained family relationships and cohesion (Dua, 2022). In summary, personas are the outward expression of identity and personality in the social context, while drugs, including addiction, have specific effects on an individual's physical and mental state and can have negative consequences on personal relationships and well-being.

2.5.1 Personality traits of substance-dependent individuals: extraversion, agreeableness, openness, conscientiousness and neuroticism

A person who has an addiction is more vulnerable when experiencing low confidence, lost connections with people, and a lack of interest and hope (Dua, 2022). Substance use is often linked to certain personality traits, such as increased neuroticism, low agreeableness, and low conscientiousness (Dash et al., 2023; Juchem et al., 2024). For example, individuals high in neuroticism may have a negative valence bias and struggle with forming interpersonal methods to cope with negative stimuli (Brock et al., 2022). Those with low agreeableness may engage in more antisocial behaviors, including drug use (Sharma &

Choudhary, 2021). Openness to experience, which is related to seeking new experiences and introspection, may also be a risk factor for substance abuse (Dash et al., 2023). Additionally, high extraversion levels may be associated with higher odds of substance abuse and more lenient attitudes toward substance use (Dash et al., 2023). Substance abuse can have severe physical and psychological effects, leading to changes in the brain's functioning and causing harm to various bodily systems. It can result in wild mood swings, violence, hallucinations, and decreased pleasure in everyday life. The impact of substance addiction extends beyond the individual and affects families, communities, and the economy. It can strain relationships, cause domestic disruption, and lead to economic loss due to decreased productivity (Dua, 2022). Regarding technology usage, individuals under the influence of substances may exhibit altered behaviour and cognition, as their actions and words may be influenced by the effects of the drugs they have consumed (Hartogsohn & Vudka, 2022). Overall, substance abuse has significant implications for individuals and society, and addressing this issue requires a comprehensive approach that considers both individual factors and societal challenges.

2.5.2 APs managing their situations

In underserved settings with an extended mental health treatment gap, prompt identification and management of substance addiction for both patients and caregivers are crucial for better prognosis. Caregivers, especially in South Africa, face a high burden when it comes to substance usage, indicating a need for early and realistic support (Yerriah et al., 2021). Despite the value of social support services, barriers to accessing these services have been reported. These barriers include lack of awareness, reluctance to seek support, financial limitations, and geographical location, which can compromise the overall wellbeing of caregivers (Choi et al., 2023). Help-seeking rates may also be lower in certain groups due to factors like stigmatization, discrimination, and language barriers (Elshaikh et al., 2023).

Caregivers of individuals with substance addiction often feel neglected and stressed, leading to feelings of despair. Interventions that provide psychological support can help alleviate the burden faced by caregivers (Wang et al., 2023). However, SUD treatment programmes typically involve minimal or no caregiver involvement, limiting safety and treatment planning. It is important to develop interventions that actively involve caregivers to improve treatment outcomes (Wang et al., 2023). The involvement of caregivers in care positively contributes to the prognosis of individuals who have a substance addiction. However, some therapists may not be adequately trained in family therapy for SUDs, and some individuals may choose not to include family members in treatment. Despite this, caregivers can still seek care and

support to maintain their own wellbeing and play a vital role in supporting their loved ones' recovery (Wang et al., 2023). Stigmatisation and shame from communities and healthcare workers can act as barriers in preventing caregivers from seeking counselling. Identifying caregivers who could benefit from support services can also be a challenge (Kent et al., 2023). Overall, addressing the needs of caregivers and providing them with appropriate support is crucial to improving treatment outcomes for individuals with substance addiction and promoting the wellbeing of the entire family system. Efforts to reduce barriers to accessing support services and addressing stigmatisation can significantly enhance caregiver involvement and improve overall treatment outcomes.

2.6 Health and wellbeing

Mental health disorders present multifaceted and complex challenges, often involving multiple systems and organs within the body. The rates of morbidity, comorbidity, disability, mortality, and treatment failure are difficult to define precisely due to the intricate nature of these disorders. Despite the efforts of psychiatrists, achieving optimal success in everyday clinical practice remains uncommon, and outcomes for patients often remain unsatisfactory in both short and long-term courses of treatment. As a result, the overall state of mental health and wellbeing is a cause for concern (Jakovljevic, 2021). Addressing mental health disorders requires a comprehensive and holistic approach, considering not only medical interventions but also social, psychological, and environmental factors that influence mental well-being. Integrating different disciplines and approaches can be crucial to improving treatment outcomes and overall mental health care delivery. Collaborative efforts from healthcare professionals, researchers, policymakers, and communities are necessary to address the complexities of mental health disorders and improve the wellbeing of affected individuals.

2.6.1 Health and wellbeing contexts

The WHO's definition of health, emphasising complete physical, mental, and social well-being, aligns well with the biopsychosocial model of health and illness (Engel, 2012). This model recognises the interconnectedness of physiological, psychological, and social factors in determining a person's health and well-being. It goes beyond the traditional medical model, which solely focuses on the absence of disease, and considers the broader context of a person's life and experiences. Additionally, the concept put forth by Huber et al. (2011), defining health as the ability to adapt and self-manage, acknowledges the individuality of health experiences. Health is not a one-size-fits-all concept; rather, it is influenced by personal needs, circumstances, and environments. This perspective highlights the importance of

empowering individuals to take an active role in managing their health and wellbeing, which may involve adapting to various challenges and circumstances. Considering health from a biopsychosocial and adaptive perspective enables a more comprehensive understanding of individuals' overall wellbeing (Bolton, 2023). It acknowledges the influence of physical, psychological, and social factors on health outcomes and recognises that wellbeing is a dynamic and individualised concept. This holistic approach to health can guide policies and interventions that support the diverse needs of individuals and communities, ultimately promoting better health outcomes and overall wellbeing for all (Bolton, 2023).

2.6.2 Health and wellbeing in low- and middle-income countries (LMICs)

Globally, importance has been placed on wellbeing as evidence suggests that a high burden of disease exists in LMICs (Wijeratne et al., 2024). This is due to the uneven distribution of research and capital. In LMICs stress and substance use is exacerbated by poverty and economic stress, which curbs an individual's ability to function. This affects wellbeing (Inglis et al., 2023). The eventual intent of research is to enhance patient outcomes. It is for this reason that increased focus should be placed on collaboration between research and clinical practice, for example, the advancement of health care systems and the implementation thereof (Rony et al., 2024). Legislators and practitioners need to address socioeconomic elements resulting in the increase of LMICs' risk for poor outcomes. This includes access to quality education and health care (Volkow & Blanco, 2021). Flexible interventions for diverse populations should be considered in the prevention and treatment of SUDs. These interventions should be responsive to the population's cultural sensitivities and be sustainable. The disease burden of LMICs is increasing as these countries have been combating communicable diseases and are now faced with non-communicable diseases (Iyer et al., 2021) and injuries (Hajjar et al., 2023). Furthermore, LMICs are in hardship concerning priority settings, tactical plans, as well as cost minimisation approaches to strengthen the sustainability of the health care structure (Ishii-Rousseau et al., 2022).

2.6.3 Health and wellbeing during and after pandemics

Health and wellbeing during and after pandemics have been a subject of extensive research to understand the impact of such global crises on individuals and communities. Below are some key points related to health and wellbeing during and after pandemics as reported in the literature:

2.7 Mental health impact

The following points summarise the key mental health and healthcare-related impacts that pandemics can have on individuals and communities:

- Pandemics can have significant effects on mental health, leading to increased stress, anxiety, depression, and other psychological problems.
- Long-lasting psychological distress and post-traumatic stress symptoms have been reported even after the end of pandemics (Schmit et al., 2024).
- During pandemics, social distancing measures can lead to increased social isolation and loneliness, which can negatively impact mental health and overall wellbeing. Persistent feelings of loneliness and Social isolation can continue after the pandemic, affecting individuals' quality of life (da Silva et al., 2024).
- Pandemics can strain healthcare systems, leading to reduced access to routine healthcare services and disruptions in treatment for chronic conditions (Gruiskens et al., 2024). Delayed or missed medical care during pandemics can have long-term health consequences for individuals (Chang et al., 2024).

2.7.1 Economic impact

The following points highlight the key economic consequences of pandemics and their subsequent effects on individuals' wellbeing:

- Economic downturns during pandemics can result in job losses, financial insecurity, and increased poverty, leading to adverse effects on mental and physical health (Khudaykulov et al., 2024).
- Socioeconomic disparities can persist even after the pandemic, affecting access to healthcare and resources for vulnerable populations (Brakefield et al., 2023).

2.7.2 Coping mechanisms and substance abuse

The following points summarise how individuals cope with stress during pandemics, including the role of substance use and protective factors in recovery:

- Individuals may resort to maladaptive coping mechanisms, such as increased substance use, to deal with stress during pandemics.
- SUDs can worsen during pandemics and may require targeted interventions for recovery (Rahmani et al., 2024).
- Resilience, social support, and community cohesion can play a crucial role in post-pandemic recovery and rebuilding of wellbeing (Goniewicz et al., 2023).

- Investment in mental health support and social programmes can improve post-pandemic wellbeing outcomes (Jonathan & Gates, 2024).

2.8 Health and wellbeing services

The organised delivery of medical, psychological, and social assistance with the goal of enhancing the health of patients and general wellbeing is referred to as a service in the health care sector (WHO, 2022). In order to address the many needs of people and communities, healthcare services include a broad range of interventions, including direct clinical care as well as educational, rehabilitative, and preventative programmes. The scope of care has been extended beyond traditional locations, and remote access to healthcare is now possible due to the expansion of service delivery onto digital platforms brought about by technological advancements (Anawade et al., 2024).

Before the pandemic, health systems had already started making deliberate progress in adopting eHealth technologies. This progress involved implementing electronic health records, providing education and training to health practitioners for using eHealth tools, and gradually introducing these functionalities. However, regulatory restrictions initially created the expectation that the adoption of eHealth might be limited. Nonetheless, in response to the urgent needs of patients during the pandemic, the rollout of eHealth technologies was expanded rapidly (Ndayishimiye et al., 2023).

It was once expected that the broad adoption of eHealth would continue to be slow-moving due to regulatory constraints. However, the pandemic's urgency sped up this shift, resulting in a quick growth of eHealth services to satisfy patients' urgent requirements during times when in-person care was limited. Due to the major disruptions to traditional healthcare delivery techniques caused by the COVID-19 epidemic, telemedicine services were quickly implemented and scaled rapidly (Hickmann et al., 2022). This change emphasises how healthcare services are dynamic and how crucial it is to be flexible while providing them, especially in times of emergency. Healthcare systems may improve patient engagement, guarantee continuity of treatment, and increase access to critical health services by utilising digital advances, irrespective of socioeconomic or geographic constraints (Hickmann et al., 2022).

2.8.1 Rehabilitation services

WHO recognises access to rehabilitation as a fundamental human right (WHO, 2023). However, in South Africa, rehabilitation has not been a top health priority, with the focus primarily on communicable diseases like Human Immunodeficiency Virus (HIV), Acquired Immunodeficiency Syndrome (AIDS) and

Tuberculosis (TB), which have seen significant progress. Yet, various health conditions can significantly impact an individual's ability to contribute to their own well-being, their families, society, and the economy. Therefore, investing in rehabilitation services in South Africa would yield substantial benefits at individual, family, societal, and national levels. To address the implications of investing in rehabilitation, the following steps should be taken according to Morris et al. (2021):

- Country-specific, evidence-based decisions:
 - South Africa should make strategic, evidence-informed decisions about investment in rehabilitation services. This means tailoring interventions to the specific needs of the country's population and ensuring that resources are allocated effectively.
- Identify barriers to implementation:
 - Country-specific strategies are essential to identify and overcome barriers that may hinder the implementation of evidence-based rehabilitation practices. This will ensure that best practices are adopted and that rehabilitation services reach those in need.
- Equitable, accessible, and affordable rehabilitation:
 - A well-planned and cost-effective approach should be followed to ensure that rehabilitation services are accessible and affordable to all individuals in South Africa. This will promote equity in healthcare access.
- Measuring return on investment:
 - The South African service delivery plan should include measures to assess the social, economic, and educational return on investment from rehabilitation services. This will help in understanding the overall impact of rehabilitation on the wellbeing of individuals and society.
- Data collection and monitoring:
 - National data collection, including information obtained through surveys, reports, and censuses at healthcare facilities, should include additional questions related to rehabilitation. This will help in gathering comprehensive information and guide decision-making.

By addressing these implications, South Africa can make significant progress in establishing a robust and effective rehabilitation system that benefits individuals and society as a whole.

2.8.2 Support services

Promoting the wellbeing of individuals and families requires having access to support services, especially in underprivileged communities where issues such as poverty, a lack of resources, and social stigma frequently exacerbate preexisting problems. When seeking help, people with substance addiction and their families often face major obstacles that can impede recovery and put a burden on family and community relationships. To guarantee that support services are not only offered but are also accessible, inclusive, and sensitive to the particular requirements of these communities, it is imperative to recognise and remove these obstacles. In order to improve service delivery for people and families impacted by substance addiction, this section examines the barriers to accessing support services and emphasises the value of community involvement, varied support networks, and creative outreach tactics.

Accessing support services can be challenging for individuals and families in underserved communities due to various practical and psychological barriers. These barriers include lengthy waiting times, inconvenient service delivery times, and the stigma associated with seeking help. Additionally, the location of support services can pose a challenge for some individuals (Koohang et al., 2023.). To address these barriers, it is essential to involve the intended users of support services in the design process. Collaborating with the community and co-designing effective communication strategies and outreach activities can help improve access to and utilisation of support services.

Support networks play a crucial role in underserved communities and can act as a buffer for families facing challenges related to substance addiction (Clark et al., 2022; Miller & Edin, 2022). Governmental support services and non-profit organisations (NGOs) should focus on providing informal social safety nets for families or individuals affected by substance addiction (Brant, 2022). Religious and spiritual support can also play a significant role in enhancing coping and providing care, purpose, and perspective for individuals and families dealing with substance addiction (Dunfee et al., 2021). Peer-delivered approaches have shown great potential in supporting individuals with substance addiction. By addressing these barriers and embracing diverse support approaches, it is possible to improve access to essential services and create a more inclusive and supportive environment for individuals and families affected by substance addiction.

2.8.2.1 Support for persons with substance dependency

Fostering meaningful, trust-based connections between individuals and non-judgmental support staff is essential in fostering meaningful engagement with support services (Miller & Edin, 2022). Trust promotes help-seeking, allows individuals to share their experiences openly, and follow through with care plans. Although these relationships are crucial, individuals continue to encounter obstacles when trying to access support services. These obstacles are transportation challenges, unstable living conditions, and systemic obstacles which hinder consistent engagement and negatively impact overall well-being. Research highlights that missed appointments, often caused by transportation difficulties, are linked to poorer mental health outcomes and an increased risk of premature death (Pancoe et al., 2024; Poulter et al., 2023). Furthermore, individuals facing unstable living conditions may struggle to maintain treatment plans and navigate complex support systems (Miller & Edin, 2022).

To address these obstacles, the concept of psychologically informed environments (PIEs) has attracted interest for its potential to strengthen service engagement and client outcomes. PIEs emphasise understanding individuals' psychological needs, enhancing supportive staff-client relationships, creating adaptable service environments, and promoting continuous learning within organisations. Studies have shown that implementing PIEs leads to enhanced mental health and wellbeing, improved housing stability, greater engagement with health and substance use services, and reduced reliance on emergency and criminal justice systems (Williamson, 2021). However, despite their proven benefits in various sectors, PIEs remain underutilised in the field of substance abuse support services (Parkes et al., 2022). Expanding the application of PIEs within this context could offer a transformative approach to better support individuals struggling with addiction, leading to improved outcomes and sustained recovery.

Developing trusting relationships with non-judgmental staff is essential for encouraging individuals to engage with support services. However, accessing these services can still be challenging for some individuals due to various common problems. One such issue is transportation, which can lead to missed appointments (Pancoe et al., 2024). Missing appointments can have significant consequences, as individuals who do so are more likely to have mental health problems and are at a higher risk of premature death compared to those with regular attendance (Poulter et al., 2023). In addition to transportation challenges, individuals facing unstable living conditions may struggle to properly access services and follow treatment plans (Miller & Edin, 2022).

Creating psychologically informed environments can help address some of these challenges and improve service engagement. These environments focus on understanding people's psychological needs, providing training and support for staff and clients, promoting a culture of learning and improvement, creating effective service environments, and managing and improving relationships within the service.

When psychologically informed environments are applied, there are positive outcomes for clients, including enhancements in mental health and wellbeing, better housing and behavioural outcomes, increased engagement with health and substance use services, reduced involvement with the criminal justice system, and decreased reliance on emergency services (Williamson, 2021).

Despite these benefits, there is a lack of application of psychologically informed environments specifically in the field of substance usage (Parkes et al., 2022). Implementing such environments in substance abuse support services could be a valuable approach to improve outcomes and ensure better engagement and support for individuals dealing with addiction.

2.8.2.2 Social support

Social support has long been recognized as a critical factor in promoting mental health and wellbeing (Zhou et al., 2024). According to the literature, social support encompasses emotional, informational, and instrumental assistance provided by others, which can buffer the effects of stress and enhance individuals' coping mechanisms (Suh, 2024; Mete, 2024.). Recent studies highlight the importance of both perceived and received support, showing that individuals who feel supported tend to experience better psychological outcomes, such as lower levels of anxiety and depression, and improved overall well-being. Social support is also linked to better physical health outcomes, as it can influence behaviours like health-seeking and adherence to medical treatments. The literature suggests that social support is particularly important in times of crisis, where it can serve as a protective factor against deterioration in mental health (Mahamid et al., 2023).

However, the effectiveness of social support is not uniform across all populations. Research indicates that the quality and type of support matter more than the sheer quantity, and factors such as cultural norms, socioeconomic status, and personal relationships can affect the perception and impact of social support. Social support is also evolving, within modern contexts, such as social media and online networks, influencing how support is given and received in contemporary society.

The rise of digital technologies has revolutionised the landscape of social support, with online platforms becoming increasingly popular for providing emotional, informational, and instrumental support (Zhu & Hu, 2023). Literature on online social support shows that digital platforms, including forums, social media, and online counseling services, offer a convenient and accessible means of connecting individuals with others facing similar challenges. Research indicates that online support can be as effective as face-to-face support, especially for individuals who may have limited access to in-person networks due to geographical, physical, or social constraints (Zhu & Hu, 2023).

Online support is particularly beneficial for marginalised groups or those dealing with sensitive issues, as it provides anonymity and reduces the stigma often associated with seeking help. Several studies have found that online support groups help foster a sense of community, reduce feelings of isolation, and promote coping strategies. However, challenges such as the lack of face-to-face interaction, potential for misinformation, and privacy concerns have been noted as limitations of online platforms (McLoughlin et al., 2023).

Despite these challenges, the literature suggests that online support can be a valuable adjunct to traditional social support, particularly when combined with other interventions or tailored to specific needs. Future research is focusing on optimizing the effectiveness of online platforms and exploring their role in long-term support for mental health and wellbeing (McLoughlin et al., 2023).

2.8.2.3 Peer-led support

Literature on peer-led support groups highlights their significant benefits in promoting emotional well-being, improving coping mechanisms, and promoting a sense of belonging among participants (Pavarini et al., 2024). Typically, peer-led support groups are led by individuals with lived experience related to the challenges faced by the group members. This creates an environment of shared understanding and empathy.

Studies report that peer-led models encourage open communication, reduce stigma, and empower participants to take an active role in their recovery or personal development, reducing self-stigma and the pressure that comes along with stigma (Cooper et al., 2024; Sun et al., 2022). Unlike traditional support frameworks, peer-led groups often operate with fewer hierarchical barriers (Asher et al., 2024; Cooper et al., 2024), allowing participants to feel more comfortable sharing personal experiences. Additionally, they

can offer practical insights and strategies that are grounded in real-life experiences rather than theoretical knowledge (Sun et al., 2022).

However, literature also notes some challenges, such as the need for proper training for peer leaders to manage group dynamics effectively and avoid burnout (Kane, Portman et al., 2023). Furthermore, sustaining these groups often depends on the level of institutional support and resources available (Mullard et al., 2023).

Despite these challenges, the growing body of evidence underscores the value of peer-led support groups in enhancing resilience, improving social support networks, and fostering collective healing in diverse populations specific in the area of their needs (Burke et al., 2019).

2.8.2.4 Rehabilitation services during a pandemic for individuals suffering from SUDs

The COVID-19 pandemic has significantly impacted individuals suffering from SUDs and addiction, leading to higher levels of psychological distress, stress, and isolation. As a result, there has been an increase in SUDs and overdose cases in the US during the pandemic. The pandemic has also disrupted traditional methods of providing support services to individuals with SUDs, necessitating innovative approaches (Holloway et al., 2022).

In response to the challenges posed by the pandemic, communities like those in Kansas, in the United States have adapted their addiction support services. They shifted from in-person programmes to remote platforms, such as the SMART Recovery Line (SMARTline), to continue aiding those in need (Liese & Monley, 2021). This experience has highlighted the importance of planning in advance for crises, considering easily accessible remote platforms, involving stakeholders in planning, recruiting volunteers to aid in service provision, and preparing for future crises.

Stigma remains a significant barrier to accessing services for individuals with substance addiction. Stigmatisation leads to inequalities in healthcare access, as communities may perceive individuals with addiction as morally responsible for their condition, resulting in denial of treatment. The pandemic further exacerbated stigma, leading to consequences such as mortality and suicide (Dannat et al., 2021).

The pandemic has also impacted health systems globally, leading to reduced services in addiction treatment and other healthcare settings. This underscores the importance of strong support systems and collaboration among stakeholders, including governments, mental health professionals, researchers, and

policymakers, to address the social issue of substance addiction and ensure the wellbeing of vulnerable populations (Foster et al., 2022).

Overall, the pandemic has revealed the need for flexibility and innovation in providing addiction services during crises, as well as the importance of addressing stigma and strengthening support systems for individuals with substance addiction. It is essential for communities and stakeholders to work together to improve patient outcomes and address the challenges posed by future crises.

2.9 Wellbeing of individuals supporting persons with an addiction problem

In this sub section the wellbeing of APs is considered to establish how the addiction problems of the persons they support affect them. Wellbeing and coping mechanisms are considered to establish a basis from which any intervention needs to be designed. Their needs within the context of their lived worlds need to be identified to ensure that the proposed support intervention is useful to them.

2.9.1 The wellbeing of APs

Caregiving, also known as family or informal caregiving, involves individuals providing support to their loved ones without any financial incentive (Jawahir et al., 2021). These caregivers play a crucial role in the well-being, safety, and healthcare of the person they care for, often in community settings (Joh-Carnella et al., 2023). Informal caregivers, also referred to as the "invisible workforce", are essential for the sustainability of healthcare systems in many countries, as they often prevent the need for institutional care (Wieczorek et al., 2022).

However, the availability of informal caregivers has decreased in developed countries due to factors such as higher life expectancy, lower fertility rates, and increased female workforce participation, leading to a growing demand for caregiver support (Tur-Sinai et al., 2020). Despite their vital role, caregivers may suffer from poorer health and receive less overall support, leading to higher levels of stress, concern, and isolation. Providing caregiving can be emotionally and physically draining, leading to both unfavourable consequences, such as stress and depression (Hernández-Padilla et al., 2021) and benefits, as caregivers often report positive feelings and emotional rewards (Bainbridge & Townsend, 2020; Brousseau et al., 2020). However, more research is needed to understand the impact of caregiving on the wellbeing of caregivers (Parr & Mielenz, 2023).

Older caregivers may be at higher risk for health degradation due to stress associated with caregiving (Fagerström et al., 2020). Caregiving for individuals with substance abuse is an ongoing process (Stelter et al., 2023), starting from the onset of symptoms or diagnosis and continuing throughout the recovery and remission process (Larkin & Milne, 2017). Caregivers play a crucial role in treatment adherence, relapse prevention, and overall prognosis for the person who has an addiction (Tyo & McCurry, 2020).

However, caregiving can have long-term implications, including financial problems, social exclusion, fatigue, physical diseases, alcohol abuse, and psychological disturbances such as depression and loneliness (Kokorelias et al., 2020; Larkin & Milne, 2017). Additionally, caregivers may experience changes in their ability to engage in meaningful activities and work, and their family dynamics may be altered due to the caregiving role (Cervantes et al., 2020).

Caregiver wellbeing is crucial, as it can influence relationships with the community, family, and loved ones, affecting social cohesion (Jordan, 2021). In underserved and rural communities, caregiver wellbeing has significant consequences on family members, but limited evidence exists in these areas (Laurenzi et al., 2021). Understanding the objective and subjective effects of caregiving for individuals with substance abuse can help develop prevention and treatment strategies to reduce psychological trauma, stress, and poor wellbeing associated with being a caregiver (Tyo & McCurry, 2020).

2.9.2 Support services for APs

The timely identification and management of mental health issues among caregivers in underserved settings are essential for improving the prognosis for both patients and caregivers. In South Africa, caregivers face a significant burden related to substance usage, underscoring the need for early and realistic support for these individuals (Yerriah et al., 2021). Despite the value of social support services, accessing them is challenging due to various reported barriers. These obstacles include a lack of awareness about available services (Hossain & Khan, 2020), reluctance to seek support (Kebede et al., 2020), limitations related to health insurance and financial resources (Abuatiq et al., 2020), and the influence of geographical location (Havyer et al., 2020). As a consequence of these barriers, the overall wellbeing of caregivers is compromised (Kokorelias et al., 2020). Furthermore, certain groups exhibit lower rates of help-seeking compared to others (White & Canning, 2023) due to factors like stigmatization, humiliation, culture shock, discrimination, and language barriers (Tuliao et al., 2016).

To address these challenges and improve mental health outcomes for caregivers in underserved settings, targeted interventions should be implemented. These may include awareness campaigns to inform caregivers about available mental health services, initiatives to reduce stigma and discrimination, culturally competent services, financial support programmes, and the use of telehealth and mobile services to reach remote areas. By implementing these strategies, caregivers in underserved settings can receive the necessary support, ultimately benefiting both their wellbeing and that of the patients they care for.

According to studies conducted by Lilleheie et al. (2020) in Taiwan and Sapharina (2020) in India, caregivers to substance addicts expressed a desire for more personal attention, believing that such attention would enhance their health and well-being. These caregivers reported experiencing feelings of despair because the focus of clinicians seemed to be primarily on the person who has an addiction, leaving them feeling neglected. Even among their loved ones, they experienced feelings of neglect, which led them to contemplate escaping from their caregiving roles by seeking relief from stress and trying to maintain resilience. Interventions that provide psychological support were found to help alleviate some of the burdens faced by these APs (Teahan et al., 2020). However, it was noted that SUD treatment often occurs in specialised programmes with minimal or no involvement of APs.

Engagement with APs in safety and treatment planning is limited, particularly as substance dependence interventions have shifted from primarily behavioural-oriented approaches to more pharmacological treatments, leaving less opportunity to engage with the patient's social network. Therefore, there is a need to develop interventions that involve APs more actively (Bagley et al., 2021). Research has shown that involving APs in care positively contributes to the prognosis of individuals suffering from substance addiction. However, certain issues prevent APs from being involved in treatment, such as therapists' inadequate training in family therapy for SUDs (Hogue et al., 2019). Additionally, despite the potential benefits of involving APs, some individuals may choose not to include their family members and loved ones in the treatment process due to health acts and regulations. In such cases, the decision to involve APs should be revisited, as their participation can be crucial in the recovery process and treatment adherence (Bagley et al., 2021). Many APs may remain unidentified, and the substance-dependent individual may not even be aware of the impact their condition has on their caregivers. However, APs need to seek care and support for their own well-being, even if they cannot obtain information about their loved one without consent. Bagley et al. (2021) emphasise that APs can play a significant role in the recovery process, especially in behavioural approaches, and care teams should provide them with

information about their important role. Supporting and involving APs is likely to have a positive impact on the overall care, even if the loved one is not yet prepared to engage in treatment (Kadambi et al., 2020).

The Community Reinforcement and Family Training (CRAFT Model) was developed by Drs. Robert J. Meyers and Jane Ellen Smith at the University of New Mexico. This model is designed to teach APs how to engage with their loved ones who are not yet ready for behaviour change related to substance use. Importantly, the CRAFT model does not rely on the involvement of the individual using alcohol or other drugs. Studies have demonstrated the effectiveness of CRAFT as a clinical approach in increasing the likelihood that a loved one will initiate or seek treatment (Bagley et al., 2021).

The primary focus of the CRAFT model is on the APs, aiming to achieve the following goals:

- Assisting a loved one in moving toward treatment.
- Reducing substance use, even if treatment is not currently an option.
- Increasing the wellbeing of the engaged family members.

This model provides APs with essential skills, including using positive contingencies, problem-solving, self-care, education about addiction, accessing treatment resources, and promoting wellbeing and communication strategies. Research has indicated that CRAFT increases treatment initiation rates from 40% to 70% for individuals with substance dependencies. Furthermore, it has shown positive effects on reducing depression and anxiety among APs (Rushton et al., 2023). A challenge in implementing the CRAFT model is identifying APs who could benefit from such services. Because the CRAFT approach does not rely on the direct involvement of the substance-dependent individual, it is essential to identify and reach out to APs who may be struggling and could benefit from the intervention (Meyers & Smith, 1995). Increasing awareness and reducing stigmatisation around seeking help for caregivers can play a significant role in overcoming this challenge and ensuring that more APs receive the support they need.

2.10 Digital health

Digital health expands on the foundational principles of eHealth, encompassing a broader range of smart devices and connected equipment, and incorporating advanced technologies such as Internet of Things (IoTs), Artificial Intelligence (AI), big data, and analytics. The World Health Organization (WHO, 2020) has taken the lead in developing a Global Digital Health Strategy, emphasising the adoption of digital technologies to improve health from inception to operation. The WHO (2020) defines digital health as the

field of knowledge and practice associated with adopting digital technologies to enhance health. It includes aspects of eHealth and addresses issues such as scalability, replicability, interoperability, security, and accessibility.

Digital health aligns with the vision of "A long and healthy life for all" and plays a strategic role in strengthening health systems. The WHO's Guideline Recommendations on Digital Interventions for Health System Strengthening (2019) target interventions using mobile devices like mobile phones and tablets due to their widespread use and accessibility. The guidelines stress the importance of reaching underserved communities while safeguarding patient privacy and ensuring digital health interventions do not harm the public.

Active engagement with stakeholders is a key priority at all levels, and harnessing stakeholder power, resources, and skills is crucial for the successful implementation of digital health initiatives (NDoH, 2019-2024).

2.10.1 Health Information Technologies (HITs)

Health Information Technology (HIT) refers to the application of computer hardware and software to manage health care information, data, and knowledge for communication and decision-making purposes (Belmonte et al., 2023). HIT has the potential to address barriers to accessing mental healthcare in rural areas, offering individuals increased access to mental care services and real-time support regardless of vulnerability or geographical location. It reduces waiting times for accessing support and overcomes constraints related to service delivery times (Cheng et al., 2021).

To ensure that HIT meets the needs of its users, co-design, also known as participatory design, should be employed. Co-design involves engaging target groups and end-users in the development process to incorporate their perspectives and preferences (Hagen et al., 2012).

HIT has the potential to broaden access to healthcare, improve clinical outcomes, enhance patient safety, and reduce disparities (Saeed & Masters, 2021; Samal et al., 2021). It can also help identify gaps in critical knowledge. Abdulkhaled et al. (2025) emphasise that HIT facilitates the care process and influences the caregiving burden through health seeking information and health communication. Therefore, efforts should be focused on delivering and implementing HIT more effectively.

2.10.2 Nursing informatics

Nursing informatics is the utilisation of information processing, including data collection, processing, storage, and sharing, along with the integration of Information and Communication Technology (ICT) to promote the health of patients or clients (McGonigle & Mastrian, 2024). In the healthcare context, digitalisation has become essential, requiring healthcare professionals to acquire new knowledge, skills, and attitudes related to digital technology and technology-based services (Cabero-Almenara et al., 2021).

The level of health care digitalisation and the use of health information systems vary significantly between different countries (Colombo et al., 2020). In nursing care delivery, the utilization of digital services has become integral, making informatics competencies a necessity for nurses to effectively perform their roles (Brown et al., 2020).

The competence of nurses in informatics significantly impacts the quality of care (Al Najjar & Shafie, 2022) as well as the management of services. It is crucial for nurses to develop informatics competencies to ensure effective and efficient healthcare delivery and improve patient outcomes (Zareshahi et al., 2022).

2.10.3 Digital health services

The demand for primary care services is increasing, and it is essential to ensure that the supply of care remains coherent and preserves PCC and integrated care. To address these needs, digital communication is recommended as a valuable tool. However, according to Svenzén and Eldh (2022), there is insufficient knowledge regarding the perspective of end-users, particularly patients.

Their research findings suggest that, from a patient perspective, digital communication enables independent contact, allowing services to be accessed at a time and place convenient to the user (Mishra & Tyagi, 2022). Patients generally perceive digital communication as beneficial (Seljelid et al., 2021).

The development and implementation of such digital services need to move beyond purely scientific and professional perspectives. To accelerate integrated care, there should be a greater emphasis on understanding and incorporating patients' experiences and the principles of PCC into the design and delivery of digital communication services (Barenfeld et al., 2022).

This PCC approach is essential for ensuring the effectiveness and acceptance of digital communication solutions in primary care settings (Ahmed et al., 2022).

2.10.4 Online services

To address concerns related to substance addiction and abuse, online care services can serve as an alternative and supplementary method to existing services. These services can be particularly helpful for family members of individuals affected by addiction, alleviating their burdens (Chiu et al., 2022). Family members of individuals suffering from health diseases have reported positive experiences and acceptance of online interventions, particularly in relation to online content and the advantages of online platforms (Contreras et al., 2022). According to Alzahrani, et al. (2022), there are five core factors that may influence individuals' usage of online healthcare services: assurance, hedonic benefits, efficiency, reliability, and content quality. Availability and tangibility are associated with these core factors, with assurance and availability being particularly important. These factors highlight the importance of considering end-users' characteristics when developing online healthcare services, especially for specific populations (Liu & Tao, 2022). Online care services have the potential to address the needs of individuals dealing with substance addiction and can provide valuable support to family members. To ensure successful implementation, it is essential to consider the preferences and characteristics of the end-users while developing these services.

Research on the quality of wellbeing for APs of substance addicts through mobile applications is scarce (Lorca-Cabrera et al., 2020). Most literature focuses on specific mental health issues, and there is limited data exploring the specific needs of APs. However, some studies suggest that digital mental health tools, including mobile apps and web-based interventions, can positively impact the mental health and burden of caregivers, including APs (Petrovic & Gaggioli, 2020). APs using mobile health (eHealth) measures generally report positive outcomes, such as increased coping skills, lower stress levels, and greater inspiration to care (Ferré-Grau et al., 2021).

However, it is essential to develop culturally appropriate eHealth tools to address the unique needs of APs (Yu et al., 2024). Currently, most eHealth interventions for caregivers are based on Cognitive Behavioural Therapy (CBT) or Stress Inoculation Training (SIT) approaches, focusing on adapting cognitive patterns associated with negative mental health effects and building stress resilience. In the context of promoting support and wellbeing, incorporating a PCC approach is crucial. Subjective wellbeing, where individuals advocate for their own preferences and welfare, should be a priority in public policies (Kieny et al., 2021). Additionally, research is needed to assess the viability and efficacy of mobile technology in offering integrated services to support individuals, including APs (Xuan et al., 2021). Overall, while eHealth

interventions show promise in supporting APs' wellbeing, further research is required to develop and implement tailored interventions that address their specific needs and roles as caregivers.

2.10.5 Social media platforms enabling online support services

Social media platforms offer powerful opportunities to develop and deliver interventions aimed at reducing the burden of substance usage and abuse on individuals. These platforms enable individuals to create and share various forms of content, including pictures, texts, illustrations, videos, and audios, among others, with a global audience (Ahmad et al., 2022). As a result, social media has transformed the way people interact and communicate globally (Ogbemudia et al., 2021). The literature supports the idea that interventions delivered through social media can effectively modify health behaviours, including those related to substance use and abuse (Vereen et al., 2023; Argyris et al., 2023). This highlights the potential of social media as a tool for delivering targeted and impactful interventions that can reach a large and diverse audience. By harnessing the power of social media, public health initiatives can leverage these platforms to disseminate relevant information, promote healthy behaviours, and provide support and resources to individuals struggling with substance-related issues.

The role of a moderator or facilitator in both online and face-to-face peer support groups is crucial to fostering a safe, inclusive, and constructive environment. Moderators guide discussions, ensure adherence to group guidelines, and mediate conflicts, promoting respectful communication among participants. In online settings, their responsibilities may include monitoring posts, facilitating virtual discussions, and addressing inappropriate behaviour promptly, often with the aid of digital tools. In face-to-face groups, facilitators focus on creating a welcoming atmosphere, encouraging active participation, and maintaining the group's focus on shared goals. In both contexts, they balance active involvement with permitting participants to share and support each other organically, ensuring the group remains participant-driven while meeting its objectives (Mansour, 2024). According to Gerritzen et al. (2024), a trained and competent facilitator who listens, allows everyone an opportunity to talk, makes sure the group is a safe place for everyone, and gets to know the participants well is essential to its success. The genuine human connections that group facilitators foster among participants offer the best assistance. Facilitators gain a greater grasp of participants' emotions by sharing the painful reality of living in hostility settings. Participants accept this, which enhances the group's therapeutic impact (Lysnyk, 2024). Furthermore, these authors also suggest that online peer support group facilitators provide participants

with a thorough overview of their group so that they may more accurately determine whether it would be a good fit for them.

2.10.6 Social media affordances

Social media affordances about online peer support refer to the unique features and capabilities that social media platforms offer, enabling effective interactions and support among individuals in online communities (Zeng et al., 2023). These affordances include connectivity, which allows users to interact and form networks regardless of geographical boundaries, fostering inclusivity and accessibility. Anonymity provides a safe space for participants to share personal experiences and seek advice without fear of stigma or judgment. Asynchronous communication enables users to engage at their convenience, accommodating diverse schedules and time zones (Gorissen, 2024).

Multimodal communication tools, such as text, audio, video, and live streaming, enhance the richness of interactions, catering to varying preferences and needs. Additionally, ease of access to information and resources allows participants to quickly find peer-validated advice, coping strategies, and educational materials. These affordances collectively create a supportive, engaging, and empowering environment for individuals seeking or providing peer support (Rane et al., 2024).

Moreno and D'Angelo (2019) suggest the following affordances for social media: Identity, social, cognitive, emotional, and functional. Scharlach and Hallinan (2023) add value as an important affordance.

2.10.7 Digital support interventions

The research on digital support interventions emphasises how they might improve patient outcomes, increase access to healthcare, and encourage community involvement, especially in environments with limited resources. Among the important conclusions are the following:

- **Accessibility and Reach:** Digital platforms overcome geographical and physical barriers, making support accessible to diverse populations, including those in rural or underserved areas (Božić, 2023). For instance, mobile applications and online forums provide real-time support and information to users who might otherwise lack access to professional care.
- **Personalisation and Tailored Interventions:** Literature emphasises the role of digital tools in delivering customised interventions based on individual needs. Adaptive algorithms and user input enable

platforms to provide relevant resources, mental health tracking, or condition-specific support (Băjenaru et al., 2024).

- **Empowerment through Self-Management:** Digital interventions promote autonomy by equipping users with tools to manage their conditions independently (Zager Kocjan et al., 2023). Examples include symptom trackers, medication adherence reminders, and educational content that boosts self-efficacy.
- **Cost-Effectiveness:** Studies suggest that digital support interventions can reduce healthcare costs by minimising the need for in-person consultations, hospital admissions, and transportation costs for users (Rodler et al., 2023).

2.10.8 Digital rehabilitation services during a pandemic for individuals suffering from SUDs

The COVID-19 pandemic has led to a significant increase in the usage of digital health services (Wosik et al., 2023). Patients have expressed satisfaction with electronic consultations and eHealth usage during the pandemic. Many patients reported being pleased with the recommendations they received through eHealth, and they expressed a willingness to continue using these services even after the pandemic ends (Reicher et al., 2021). In fact, patient experiences with eHealth were found to be equally or more positive than traditional office-based visits, with tele-video visits receiving particularly high ratings for doctor communication, care coordination, and recommendations to family and friends (Talal et al., 2023). The pandemic acted as a catalyst in transforming the concept of care, leading to the invention of new technologies and capabilities, innovation in eHealth and virtual care, and increased investment in the digital health industry, ultimately reshaping the conventional healthcare system (Chu et al., 2022). Studies consistently show that eHealth should be an integral part of overall patient care as it promotes access to healthcare services and is well-received by patients (Widberg et al., 2020). Overall, the pandemic has accelerated the adoption of digital health services, paving the way for a more patient-centric and technology-driven healthcare landscape.

2.11 A proposed theory-informed conceptual framework

The focus of the research is to understand the experiences of APs who support a drug addict and their utilisation of services to better cope with the support they provide (Monari et al., 2024). The research considers three dimensions: the "me", which represents the individual experiences of the AP; the "me+", which refers to how the AP is influenced by their relationship with the drug addict they support; and the "me++", which encompasses the broader context of an underserved community that impacts the drug

addiction problem, the support provided by carers to drug addicts in that community, and the services available to them (Soellner & Hofheinz, 2024).

The study specifically examines the position of the AP and the drug addict within a family setup, which can be traditional, extended, or involve other important role players (Soellner & Hofheinz, 2024). It explores how the context of an underserved community affects the dynamics of drug addiction, how carers support drug addicts in that context, and how the services available to them are influenced (Mubashir et al., 2025).

Additionally, the research delves into the interactions between carers and other individuals and organisations that offer support to them. The main research question revolves around designing a relevant PCC service tailored to the needs of carers in an underserved community (Sampogna et al., 2023). The goal is to develop an intervention that addresses the unique challenges and circumstances faced by carers supporting drug addicts in such a context, with a focus on providing patient-centric and effective care (Monari et al., 2024).

2.11.1 Theoretical underpinning

2.11.1.1 Sense of Coherence

The concept of a Sense of Coherence (SoC) was introduced by Aaron Antonovsky in 1979 to explain why some individuals' health declines under stressful circumstances while others remain healthy. This approach has garnered significant attention and has been associated with health outcomes in numerous research studies. SoC is a combination of hopefulness and the perception of control over one's life (Riopel, 2021). SoC is comprised of three key elements: Comprehensibility, Manageability, and Meaningfulness. Comprehensibility refers to an individual's understanding and ability to make sense of life events and challenges. Manageability involves the belief that one has the resources and skills to handle stressors effectively. Meaningfulness pertains to the perception that life has purpose and significance, providing a sense of direction and motivation (Riopel, 2021). In summary, SoC plays a crucial role in understanding how individuals cope with stress and maintain their health, and its components of Comprehensibility, Manageability, and Meaningfulness contribute to an individual's overall ability to navigate through challenging circumstances.

Comprehensibility: Indeed, Comprehensibility, as part of the SoC framework, is a cognitive aspect that refers to an individual's perception of external and internal stimuli as being understandable and rational

(Jiang, Jin et al., 2021). It involves the ability to see things as organized, coherent, clear, and structured, allowing individuals to make sense of their experiences and the world around them. When someone possesses the capacity to structure or restructure a chaotic situation, it becomes easier for them to grasp the context in which various aspects of their lives exist. Having a strong sense of comprehensibility is crucial in coping with stress and managing challenging situations. It enables individuals to understand the causes and consequences of events, and it provides a foundation for making informed decisions and taking appropriate actions. Additionally, when one perceives their environment as comprehensible, they are more likely to feel a sense of control and mastery over their circumstances, contributing to their overall sense of wellbeing and resilience (Padmanabhanunni & Pretorius, 2025).

Manageability, another component of the SoC framework, is indeed a behavioural aspect that pertains to an individual's perception of the availability of resources at their disposal to cope with various stimuli and challenges they encounter (Dankwart, 2021). These resources can be both formal, such as social services, and informal, such as support from family and friends.

Having a strong sense of Manageability is essential in handling stress and navigating through life's difficulties. It involves the ability to cope effectively with problems and challenges, seeking and utilising available resources, and investing time and energy into finding solutions. When someone perceives their life as manageable, they are more likely to approach problems as challenges that can be overcome, rather than burdens that are overwhelming. This positive approach enables individuals to proactively address issues and take active steps to resolve them, enhancing their overall resilience and wellbeing.

Meaningfulness, the third element of the SoC framework, is a motivating factor that refers to the extent to which individuals feel that their lives have emotional significance and purpose (Dankwart, 2021). This aspect becomes particularly functional when faced with problems or challenges, as it provides individuals with a sense of direction and motivation to navigate through difficult situations. Antonovsky's work focused on understanding why some individuals maintain a positive attitude and well-balanced health despite facing hardships and stress in their lives, while others do not. The concept of SoC, along with GRRs, provides an explanation for this phenomenon (Eriksson, 2022). Individuals with a high SoC tend to have an enduring attitude and view their lives as manageable, understandable, and meaningful (Eriksson, 2022). They are better equipped to manage stressful situations and seek and utilise GRRs, which include resources like funds, intellect, self-esteem, preventive health orientation, social support, and cultural capital. These resources enhance an individual's ability to cope with life's challenges and allow for the

adoption of adaptive coping strategies, contributing to better health outcomes. The salutogenic concept, also known as "salutogenesis", is derived from this approach, focusing on the factors that promote health and wellbeing rather than solely on the absence of illness. It emphasises the importance of a sense of coherence in successfully coping with challenges and maintaining overall health. In summary, the SoC and GRRs play a vital role in explaining why some individuals are better able to manage their lives and cope with stress, contributing to their overall health and well-being.

2.11.1.2 Social Support Theory (SST)

According to Cohen and Wills (1985), the Social Support Theory recognises the importance of social networks and interactions in fostering personal wellness and acting as a stress-reduction mechanism. The theory suggests that there are several types of support: emotional support, which includes empathy, care, and reassurance; informational support, which includes advice or guidance for solving problems; instrumental support, which includes material assistance like financial aid or practical aid; appraisal support, which helps people assess situations and make decisions; esteem support, which affirms one's own value and confidence; companionship support, which reflects the presence of others for shared activities and social integration; and self-regulation support, which helps people manage behaviors and coping mechanisms (House, 1987).

These aspects of social support are crucial when it comes to helping affected individuals who are addicted to substances, as they offer both psychological and practical resources, which promote resilience, lessen feelings of loneliness, and improve the ability to handle continuing caregiving difficulties.

2.11.1.3 Lived experiences

Lived experience is a concept associated with phenomenology that can be studied, amongst others, from a transcendental (descriptive) perspective as proposed by Husserl, or a hermeneutic perspective (interpretive), based on the work of Heidegger and Gadamer (Neubauer et al., 2019). The interpretation of the concept of lived experience is situated in the life-world of a person affected by a phenomenon. The researcher, who is part of the interpretation process, is interested in the meaning, structure, and essence of how a person makes sense of being affected by a phenomenon (Charlick et al., 2016).

In this study, the following dimensions are considered to obtain a better understanding of a person's lived experience: (1) Cognitive-emotional: about thoughts and feelings; (2) Behavioural (actions taken); (3) Social (interacting with others in a specific situation to form relationships); (4) Environmental

(environmental influences on and by an experience); (5) Physical (perceptions of body); (6) Technological (technology use to manage the person's life). These are based on the six conceptual domains of self-management of rheumatoid arthritis identified by Donnelly et al (2020) based on a meta-synthesis of 32 studies, where 28 dimensions, grouped into the six conceptual domains, were identified.

Understanding APs' lived experiences offers significant insight into the realities of those helping individuals who are addicted to substances. According to van Manen (2023), these experiences cover both the everyday difficulties that APs face, such as emotional strain, family strife, financial strains, and social stigma, as well as how they deal with and perceive these difficulties. Lived experiences bring to light the subjective and contextual aspects of caregiving, revealing how coping mechanisms and resilience are shaped by interpersonal interactions, societal norms, and personal values.

2.11.1.4 Combining SoC and SST

According to the framework of Sense of Coherence (SoC), this study examines how APs interpret their situation as understandable, controllable, and significant, which affects their ability to adapt and maintain resilience (Antonovsky, 1987). In addition, Social Support Theory stresses the role of outside resources in reducing stress and fostering wellbeing, such as emotional, informational, instrumental, appraisal, esteem, companionship, and self-regulation support (House, 1981; Cohen & Wills, 1985). By combining both of these perspectives, it becomes transparent how relational support and internal coping mechanisms interact dynamically, giving APs a deeper awareness of how they persevere through adversity, find strength in their networks, and preserve stability and purpose. By placing these lived experiences front and centre, interventions and policies can be more accurately tailored to the needs, priorities, and strengths of those who are directly affected by substance addiction.

By integrating the SoC theory and the Social Support theory in this study, these perspectives, place the experiences of APs at the intersection of relational support and internal coping ability. It shows how their capacity for adaptation and psychological stability is influenced by both their own sense of purpose and the material and emotional support they receive from peers, family, and community mechanisms. In addition to shedding light on the causes of stress and resilience, this dual-theoretical approach helps guide person- and family-centred therapies, ensuring that approaches consider the interaction between internal coherence as well as external support systems.

2.11.2 SoC and mental health and wellbeing of APs

The concept of SoC has been extensively studied in various caregiving populations, including caregivers of individuals with cognitive impairment and healthcare workers. Research consistently indicates that a higher SoC is associated with better psychological adjustment to stress, reduced caregiver burden, and improved wellbeing outcomes. In a study by Potier et al. (2018), older caregivers with higher SoC reported lower hardship, suggesting that a high sense of coherence may serve as a protective factor against the burden of caregiving. Similarly, a study by Schäfer et al. (2018) revealed that a high SoC, along with general resilience and an internal locus of control, was important for the mental health of healthcare workers, protecting them from the negative effects of stressors in the hospital environment. Moreover, López-Martínez et al. (2021) concluded that SoC is an important target for future interventions as it mediates psychological distress across various populations, including caregivers. It was also suggested that individuals with low SoC coherence may need psychological and social support to cope with their caregiving role. Furthermore, studies have shown that a high SoC is related to better coping strategies in stressful environments and has a preventive effect on the experience and effects of stress (Antonovsky, 1979; Antonovsky, 1987). SoC influences how individuals perceive stressful situations and engage in problem-oriented strategies, which in turn affects their level of experienced stress. Overall, the research highlights the importance of SoC in caregiving populations and its potential role as a protective factor against the negative effects of caregiving stress. Future interventions targeting SoC may contribute to improving the psychological wellbeing and coping abilities of caregivers.

2.11.3 Proposed Conceptual Framework

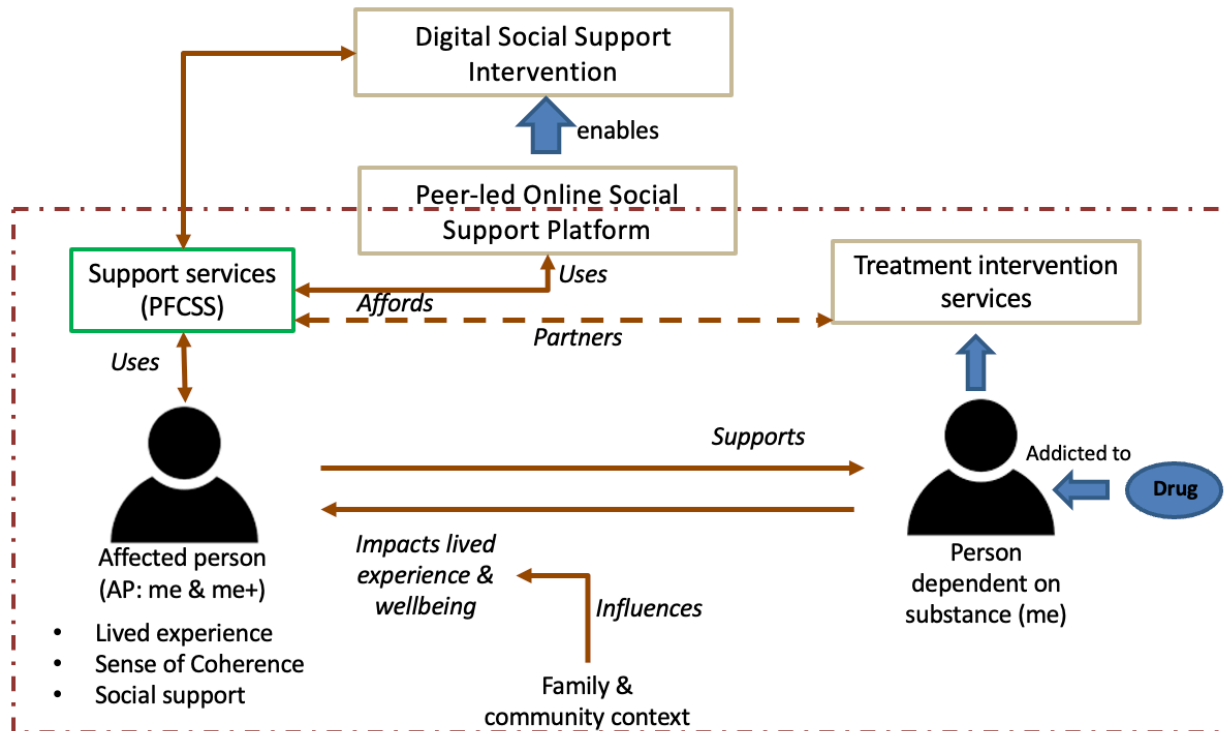


Figure 4: Proposed conceptual framework developed from the literature reviewed

The research focused on the AP and sought to understand their experience of supporting a drug addict and utilising a service that could assist them in coping better with the support they provide. This referred to the "me" of the AP as an individual. The "me+" highlighted how they were influenced by the situation, with the "+" signifying their relationship in supporting the substance-dependent person. As seen in Figure 4, the roles of the AP and the drug addict were examined within a family context (which could be traditional, extended, elected, or any significant role players in the addict's life).

The context of an underserved community was represented as "me++", acknowledging how the contextual factors influenced the drug addiction problem, the manner in which carers supported addicts, the services available to them, and their relationships and interactions with other carers, individuals, and organisations offering assistance. The primary research question focused on designing a relevant PCC service for carers within an underserved community.

2.12 Chapter conclusion

Chapter 2 has provided a comprehensive review of the literature surrounding substance abuse, its global and local implications, and the critical role of PCC in supporting both individuals affected by substance dependency and their caregivers. The chapter highlighted the increasing prevalence of substance abuse worldwide, particularly in low- and middle-income countries, and emphasised the need for holistic, multidisciplinary approaches to address this complex issue. It also underscored the importance of integrating PCC into treatment and possible online recovery programmes, focusing on the psychological, physical, and social aspects of care. Additionally, the chapter examined the challenges faced by informal caregivers and the need for support systems to enhance their well-being. The insights from the literature reviewed in this chapter provide a strong foundation for understanding the multifaceted nature of substance abuse and recovery, setting the stage for the subsequent chapters that will explore practical interventions and strategies in greater detail.

CHAPTER 3:

RESEARCH METHODOLOGY

3.1 Introduction

Chapter 3 will detail Phase 1 of the research, focusing on the unique challenges faced by people suffering from addiction, specifically methamphetamine (MA) and their APs. These challenges require specialised treatment and tailored interventions due to the distinct experiences that MA users endure compared to other drug users. The high prevalence of MA use, particularly in underserved areas like Cape Town, has led to significant health and social issues, including strained relationships, ill health, gender-based violence, and risky sexual behaviours. Furthermore, APs, including family and friends of MA users, often face emotional distress and a compromised quality of life, yet the existing services addressing their needs remain limited.

A critical gap exists in the availability of targeted services for APs, highlighting the urgent need for comprehensive, tailored, and technology-enabled support services. The potential of Digital Health (DH) applications to provide personalised and interactive support for APs suggests that investigating these technology-enabled interventions could significantly enhance the wellbeing of both MA users and their support networks. Thus, the central research problem addresses the lack of adequate support services for MA users and APs, emphasising the importance of exploring eHealth interventions.

The aim of this chapter is to explore the experiences and support needs of APs while aiding individuals struggling with addiction. To guide this investigation, the following research questions will be addressed:

RQ1: How do APs currently experience their lived situation while supporting individuals struggling with substance addiction, and what is the effect on their well-being?

RQ2: What support services are currently available for APs supporting individuals with substance addiction, and what are the perceived gaps and shortcomings in these services?

RQ3: How can eHealth interventions be effectively utilised to support APs and improve their wellbeing while caring for individuals with substance addiction?

This study was done in two phases where the aim of the first phase was to gain a better understanding of the lived experience of APs as they are affected by the substance dependent behaviour of a person in their lifeworld influenced by contextual factors specific to their context. The second phase is to design an

appropriate intervention that can facilitate support from their peers and other persons in this space. Each phase has its own philosophical assumptions, approach, methods and data collection activities. The findings of the first phase will form the design for the second phase to ensure that the intervention is based on their needs and preferences. A co-design process was used, involving participants as active partners in creating the intervention. This approach, based on human-centered design, focuses on designing with users rather than designing for them.

Phase 1 of this study will adopt an interpretivist philosophy with an inductive approach, utilising a mixed-method methodology that emphasises phenomenological research to capture the lived experiences of APs through interviews, questionnaires, diaries, and co-design workshops. The second part of this chapter will then delve into Phase 2 of the research, transitioning to a pragmatic philosophy and abductive approach, which will focus on the design of an intervention aimed at enhancing support for APs.

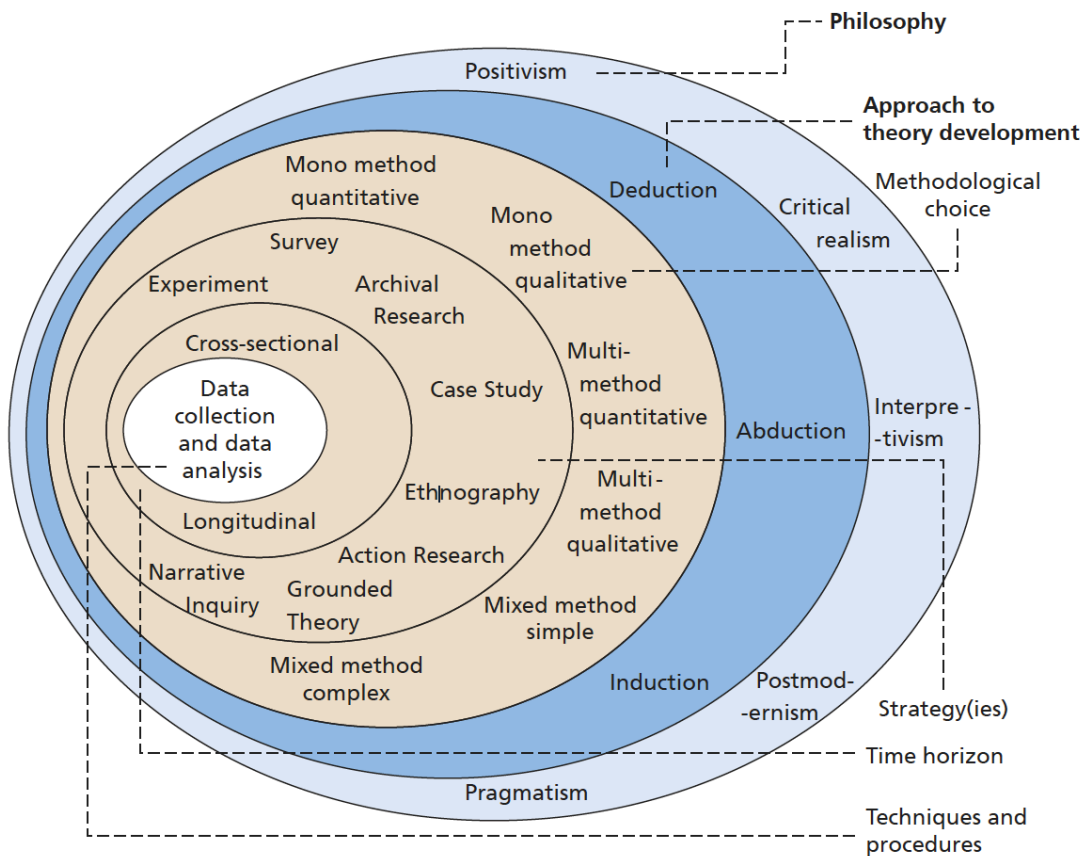


Figure 5: The research onion (Saunders, Lewis & Thornhill, 2019)

In both phases the research onion (Figure 5) was used to guide the research positioning of the research conducted.

3.2 Phase 1 – Contextual inquiry for the lived experience of APs

3.2.1 Philosophy: Interpretivism

Interpretivism, rooted in the philosophical traditions of phenomenology and hermeneutics, holds that reality is perceived subjectively and is socially produced. This school of thought focusses on understanding human behaviour from the participant's point of view by arguing that people actively interpret and generate meaning from their interactions with the outside environment (Bryman, 2016). Interpretivism is concerned with examining how individuals make sense of their experiences in particular circumstances, in contrast to positivism, which uses empirical observation to find objective facts. This paradigm's main goal is to understand the complexity of the human experience by direct engagement with people's social and cultural environments. Interpretivism is utilised in an effort to comprehend subjective reality, particularly in fields like education, the social sciences, and medicine where people's experiences and perceptions are important. Interpretivist research aims at offering rich, deep insights into the phenomena being studied, rather than extrapolating findings to other groups. This chapter's research recognises the variety of realities that are influenced by social, cultural, and individual factors. It accomplishes this by looking at participants' lived experiences and points of view through an interpretivist lens (Saunders et al., 2019). The interpretivist perspective places a strong emphasis on the value of context and the unique perspectives that arise from people interacting with their environment.

With this being said, the research focused on understanding the experiences of the APs supporting an individual suffering from addiction, framed within a conceptual model that takes into consideration the various layers of identity and context. The “me” perspective emphasises the personal feelings, thoughts and challenges of the AP in their role as supporter and this further explores the internal landscape of the individual. This includes their emotional and psychological responses to the situation. The “me+” perspective examines how the individual's experience is influenced by their relationships, more specifically with the person suffering from the addiction. The dynamics of support, love, conflict and responsibility are being explored here. These all affect the person's identity and coping mechanisms as it considers the emotional toll this takes on their wellbeing and how they shape the experiences of the AP. The “me++” perspective concentrates on the broader context of an underserved community. This concept addresses how different social, economic and cultural factors contribute to the addiction problem and

affect the support systems available. It includes examining the availability and accessibility of services for addiction, and also the stigma, poverty and lack of resources on the experience of both the AP and the addict. In addition, it also considers the interactions with other caregivers and organisations that shape the support network. The main research question is about designing an online digital intervention service which is tailored for APs in underserved communities. This includes the needs and challenges these APs face by evaluating existing services to identify gaps, and fostering collaborations among the various stakeholders, including facilities, healthcare providers and organisations. Grounded in interpretivism, the research emphasises understanding human behaviour from the perspective of the AP. The philosophical approach is important for obtaining insights into the lived experiences of APs. This recognises the complexity and subjective nature of their realities shaped by individual and social factors. By engaging deeply with the APs, the research aimed to gather rich qualitative data to inform service design and improve the support offered. This holistic approach will help create a meaningful PCC service for caregivers.

3.2.2 Research approach: Inductive

Based on interpretivist philosophy, the research employs an inductive approach, which focuses on developing theory rather than testing pre-existing hypotheses. Inductive reasoning moves from specific observations to broader generalisations, allowing for the identification of patterns and development of themes from the obtained data without the constraints of a predefined framework. Having said this, new theoretical insights can emerge based on participant responses, considering the context in which they are situated (Vears & Gillam, 2022).

In accordance with the interpretivist philosophy, the research follows an inductive approach, which focuses on producing theory rather than testing pre-existing hypotheses. Inductive reasoning shifts from specific observations to broader generalisations. This allows for the development of patterns and themes from the obtained data without the limitations of a predefined framework. Having said this, new theoretical insights can be developed based on participant responses, taking into consideration the context in which they are situated (Vears & Gillam, 2022).

An inductive approach compliments qualitative research as it allows for flexibility in grasping human experiences and behaviours. The interviews, take-home diaries and co-design allows for themes to emerge that are grounded within the participants' own narratives.

3.2.3 Research methodology: Mixed methods Exploratory Sequential Mixed Methods Design

The research embraces a mixed-method approach aiming to understand the research questions by combining qualitative and quantitative data, which strengthens the understanding of the phenomena (Taherdoost, 2022).

The qualitative aspect of the research focuses on collecting in-depth, subjective data from the participants via interviews, diaries, and co-design workshops to provide detailed accounts of their experiences. The quantitative component includes questionnaires to quantify certain aspects of the research.

Mixed methods are valuable in interpretivism research as they allow for data triangulation, increasing the validity of the findings (Tzagkarakis & Kritas, 2023). Although the aim of this study is not to generalise, the integration of multiple forms of data collection, provides the research with a comprehensive perspective of the phenomena under study; interviews reveal deep insights into participants' motivations and challenges, and questionnaires offer quantifiable data that demonstrate broader trends (Karunarathna et al., 2024).

3.2.4 Research strategy: Phenomenology

The research follows a phenomenological approach which is a qualitative strategy designed to explore the lived experiences of individuals deeply. It emphasises describing experiences as they are lived and recognises the importance of subjective interpretation. It affirms that individuals are sense making beings, interpreting their worlds in unique ways.

Phenomenology has its roots in Edmund Husserl's early 20th-century philosophical writings. Husserl rejected positivism's sole emphasis on the outside world in favor of concentrating on phenomena as they are perceived by human consciousness in an attempt to create a universal basis for philosophy and science (Neubauer et al., 2019). It is therefore an approach to research that seeks to describe the essence of a phenomenon by exploring it from the perspective of those who have experienced it (Neubauer et al., 2019).

Phenomenology examines two core aspects of experience:

- The “what” of experience: This speaks to the core characteristics of a phenomenon - its essential nature as experienced subjectively by various individuals.

- The “how” of experience: This has to do with how people view, understand, and interpret phenomena. It includes environmental, emotional, and cognitive aspects.

The identification of universal essences - shared structures of experience that transcend individual contexts - is emphasised by Husserl's transcendental phenomenology. Researchers use specific methodological steps to do this. Bracketing, commonly referred to as epoché, is one such stage that requires setting aside one's own prejudices, beliefs, and preconceptions in order to concentrate solely on the lived experiences of the participants. In order to identify a phenomenon's invariant properties, researchers examine descriptions of it from various perspectives using creative variation, another crucial approach. Transcendental phenomenology is an effective tool for comprehending the essence of human experiences in a variety of circumstances which, because of these processes, help in separating an experience's essential components (Neubauer et al., 2019).

Phenomenology follows different schools of philosophy that determines the “what” and “how” of the experience.

Several philosophical traditions are included in phenomenology, which all influence how researchers investigate and comprehend human experience, particularly the “what” and “how” of lived experience. These schools offer unique philosophical underpinnings that influence various phenomenological research methodologies.

Edmund Husserl's work from 1920 is the foundation of transcendental phenomenology, a significant tradition. According to this perspective, phenomenology is the study of the nature of consciousness. By putting aside any assumptions, whether methodological, theoretical, or scientific, it aims to expose lived experiences by letting the phenomena speak for themselves (Charlick et al., 2016; Neubauer et al., 2019).

Influenced by Heidegger (1962), hermeneutic phenomenology places an extreme value on interpreting meanings and acts in light of the outside world. It recognises that people are always placed inside a certain world and are not unbiased observers. This viewpoint asserts that people have "situated freedom" - they have the ability to choose, but the circumstances of their lived experiences have an impact on their decisions.

Maurice Merleau-Ponty (2012) and Jean-Paul Sartre (1956) developed existential phenomenology, a third strand that emphasises human experience and activity. This method accentuate the intensely

individualised and embodied character of lived experience by concentrating on how people engage with the world through their bodies, emotions, and intentions.

This study uses hermeneutic phenomenology rather than transcendental phenomenology because it aims to analyse and comprehend the lived experiences of APs in the context of aiding people with drug dependency, especially in underprivileged communities. Based on Heidegger's philosophy, hermeneutic phenomenology recognises the researcher's interpretive role and the importance of participants' social, cultural, and historical situatedness, in contrast to transcendental phenomenology, which places an emphasis on bracketing the researcher's assumptions to uncover universal essences of experience.

Considering that the research explores complex family dynamics, emotional stressors, and culturally embedded challenges faced by APs, an interpretive approach is more suitable. Hermeneutic phenomenology allows for a contextualised understanding of how APs make meaning of their experiences in light of financial strain, mental health concerns, and systemic marginalisation. Furthermore, the study draws on Antonovsky's SoC theory, which fundamentally includes interpreting how individuals perceive and respond to stressors, making the meaning-making process central to the inquiry.

In addition, the study's transdisciplinary design - which integrates behavioural sciences, nursing informatics, and health informatics - calls for a methodological framework that values subjective interpretation, reflexivity, and co-construction of meaning. Hermeneutic phenomenology supports this by enabling a deep exploration of how APs interpret their roles, challenges, and resilience, especially as they engage with a technology-enabled, peer-led support intervention.

Thus, hermeneutic phenomenology aligns with both the goals and philosophical underpinnings of this research, offering a richer, more nuanced understanding of APs' lived realities than a purely descriptive approach would allow.

The ideographic nature of this approach focuses on the detailed analysis of specific experiences, making it particularly suited to examining complex and emotionally charged topics, such as pain (Smith & Osborn, 2015).

As societal issues become more complex the need for research methods capable of capturing the complexities of human experiences become more vital. The phenomenology strategy offers a significant framework for gaining insights into the details of lived experiences (Jedličková et al., 2022).

3.2.4.1 Interpretative Phenomenological Analysis (IPA)

For this study, Interpretative Phenomenological Analysis (IPA) was employed to explore how the participants interpret and make sense of their lived experiences within specific contexts. IPA does more than just summarise participant stories; it enquires into their subjective perspectives which reveals their perceptions and interprets their experiences. Inner worlds of the participants are understood by the usage of IPA as it offers insights into the participants' psychological wellbeing (Smith & Nizza, 2022). It also drives a collaborative interpretative process between the researcher and the participants, exploring personal meaning-making (McInally & Gray-Brunton, 2021).

3.2.4.2 Hermeneutic and Thematic Analysis

The research further integrates hermeneutic phenomenology. This focuses on the interpretation of the participants' lived experiences through an ongoing, reflective process and highlights meaningful aspects of these experiences (Jedličková et al., 2022). This research uses interpretative phenomenological analysis–existential hermeneutic phenomenology (IPA-EHP) and recognises that human experiences are interconnected and shaped by elements such as temporality, mood, and being-in-the-world.

The participants in this study affected by supporting people with substance addiction, shared their lived experiences which offered insights into their coping strategies and challenges. The researcher facilitated an open exploration of these experiences through interviews and focus groups. Recruitment was achieved primarily through referrals, and participants' willingness to share their experiences contributed to a rich exploration of their realities. The researcher explored these experiences through interviews and focus groups. Recruitment of the participants was accomplished through referrals and participants' willingness to share their experiences facilitated a profound understanding of their experiences.

The phenomenological approach used allowed for alignment with the interpretivist philosophy. This strategy is well matched for exploring the essence of lived experiences, such as how participants engage with co-design workshops or navigate healthcare interventions (Jedličková et al., 2022).

3.2.5 Data collection methods

The research employed multiple data collection methods, including interviews, questionnaires, diaries, and co-design workshops, to gather diverse and comprehensive data. Each of the following methods serves a specific purpose within the mixed-methods design. Note that the participants responded in their

home language which is predominantly Afrikaans followed by some responses in English. However, the researcher is fluent in both Afrikaans and English and could therefore transcribe the responses without affecting their meaning.

3.2.5.1 Body mapping:

Arts-based techniques, also known as Arts-based research methodologies and methods (ABM), are unconventional approaches in qualitative research but are gaining popularity in health and Social sciences due to their potential to yield richer and more meaningful data from participants' perspectives (Nathan et al., 2023). ABMs can reveal hidden knowledge, providing deeper insights into participant experiences and perspectives (Macken et al., 2021). These methods can be used in conjunction with traditional data collection methods, such as interviews and focus groups, to enrich the research process and generate new knowledge (Maina et al., 2014).

The participatory arts-based research technique known as BM was first created to help South African women living with HIV/AIDS tell their stories and graphically represent their experiences. Since then, this method has developed into a useful instrument for investigating embodied experiences and promoting knowledge creation in qualitative research, especially in the social and health sciences (Lys et al., 2018).

BM is used in modern research to explore participants' subjective physical experiences, allowing the expression of social realities as well as complex emotions that may be difficult to express verbally. Recent research, for example, has used BM to examine the perspectives of healthcare practitioners in Timor-Leste, demonstrating how well it captures complex personal and professional insights (Henderson et al., 2023).

Additionally, by providing a platform for participants to creatively express and process their experiences, BM has been essential for mental health research. A 2023 review highlighted BM's potential in mental health settings, pointing out that it can help participants and researchers develop a higher level of empathy and understanding. All things considered, BM is an effective way to get participants involved in reflective and expressive processes, enhancing qualitative research by revealing levels of meaning that traditional approaches might not be able to reach (Szekely et al., 2024).

Body mapping, as employed in this research, involves participants engaging in creative self-expression through drawing and storytelling. ABM empowers participants, as they have control over the art-making

decisions, data selection, and analysis, allowing them to guide the research and explore themes relevant to their experiences (Klein & Milner, 2019). This approach encourages powerful dialogue, particularly around complex or sensitive topics and collective experiences (Santarossa et al., 2023). The use of ABM produces relatable, informative, and impactful data that can be understood and appreciated by various audiences. It fosters critical thinking and enables a deep and empathetic interpretation of lived experiences (Leavy, 2020). Body mapping therefore is a visual qualitative research technique used to gather data from participants about their subjective bodily experiences. It is an innovative method that engages participants' imagination and allows them to express their experiences in a creative and visual way (Zaragocin & Caretta, 2021). Studies employing body mapping methods have been found to empower participants by allowing them to create a first-person nonverbal narrative. For clinical and other populations, body mapping has proven advantageous in broadening knowledge about subjective lived experiences, including understanding anxiety's emotional, experiential, and somatic characteristics (Vaughan et al., 2023).

The researcher determined that a single session would be sufficient. The sessions were structured with specific time slots allocated for each instruction or activity. This structured approach allowed for organised and focused data collection, ensuring that participants' responses were effectively captured and analysed. The body mapping was complemented by a workbook which was given to each participant, allowing them to record detailed information that could not be fully depicted on the map. In this study, each activity was carefully designed by the researcher, each serving a specific purpose as outlined in Table 3. The life size drawings of each participant with their notes were used to analyse their lived experiences.

3.2.5.2 Interviews:

Semi-structured interviews are used to collect in-depth qualitative data from participants. These interviews create an opportunity for flexibility in questioning. It also enables participants to share their experiences in their own words (Henriksen et al., 2022). Interviews are particularly effective in phenomenological research as they allow participants to reflect on their lived experiences (Henriksen et al., 2022). An interview guide was developed guided by the research questions of this study and the selected theories to formulate suitable interview questions.

Table 3: Mapping Questionnaire Items to SoC Dimensions

SoC Dimension	Question Themes	Examples from Questionnaire
<p>Comprehensibility (Perceiving life as structured, predictable, and understandable)</p>	<p>Life background, environment, identity, family structure, upbringing, spiritual and social understanding</p>	<p>- "When and where were you born and raised?" - "What type of area/neighbourhood(s) did you grow up in and where do you live now?" - "How would you identify yourself?" - "How was spirituality talked about and/or practiced in your family?"</p>
<p>Manageability (Belief in availability of resources to meet life demands)</p>	<p>Coping mechanisms, adjustment skills, support systems, hobbies, dealing with stress</p>	<p>- "How well do you adjust to new situations?" - "Please explain any coping mechanisms used for your own wellbeing." - "What do you like to do for fun?" - "Please explain the nature of support that you have access to, if any."</p>
<p>Meaningfulness (Belief that life makes sense emotionally and is worth engaging in)</p>	<p>Emotional states, personal fulfilment, values, emotional expression, self-worth, motivation</p>	<p>- "How have you been feeling in general recently?" - "How do you feel about your life and lived experiences?" - "Is there any achievement/event that you will never forget?" - "Are you self-fulfilled in all aspects of your life?" - "Do you feel happy?" - "What do you think about the phrase 'fake it till you make it'?"</p>

Each group of questions was designed to elicit insights aligned with the SoC framework (Table 3):

- **Comprehensibility** items help assess how participants perceive and make sense of their environments and life history.

- **Manageability** questions focus on the resources, both internal and external, that participants use to deal with stress and life challenges.
- **Meaningfulness** items tap into personal values, emotional states, purpose, and motivation to engage with life despite adversity.

3.2.5.3 *Diaries:*

Longitudinal data is obtained through diaries. It offers an intimate and ongoing record of participants' thoughts, feelings, and reflections, providing insights into the temporal aspects of their experiences that might not surface in a one-time interview (Neale, 2021). Although this study did not use a longitudinal time horizon, the use of diaries still provided valuable and rich data allowing the participants to describe experiences at their convenience.

3.2.5.4 *Co-design workshops: Stakeholder mapping*

Stakeholder co-design workshops were held to actively involve participants in collaborative design processes, enabling them to contribute directly and in real-time to the development of interventions and tools. This participatory method ensures that the research is grounded in the needs and experiences of the end-users, promoting the co-creation of knowledge (Gazulla et al., 2020). A stakeholder relationship mapping method was used to identify the relevant stakeholders who have an influence on the APs' lived experiences of supporting persons with substance dependency. The reason for using this method was to establish who the stakeholders are who could be involved in designing suitable interventions or services.

3.2.6 **Data analysis**

The qualitative data for the first phase were analysed using thematic analysis and the contextual and situational inquiry data provided more details about the context and lived realities of the APs. In this study, the combination of thematic analysis, contextual inquiry, and situational inquiry was appropriate for capturing the complex lived realities of APs in an underserved rural community. These methods allowed the researcher to explore not only participants' experiences of supporting individuals with substance addiction, but also how limited resources, social stigma, and service constraints shaped their coping strategies and help-seeking behaviours.

3.2.6.1 *Thematic analysis*

Data collected through these different methods was analysed using thematic analysis. Thematic analysis is a flexible and widely used qualitative analytic method that involves identifying, analysing, and reporting patterns (themes) within the data (Naeem, Ozuem et al., 2023). This method is especially fitting for inductive research as it allows themes to emerge organically from the data without being constrained by pre-existing theoretical frameworks. The thematic analysis involves several stages, including familiarisation with the data, coding, identifying themes, reviewing themes, defining and naming themes, and producing the final report (Naeem, Ozuem et al., 2023). The thematic analysis provides a clear and structured process for analysing qualitative data, enabling the researcher to identify key themes that reflect the participants' experiences and perspectives. This method aligns with the phenomenological approach, which seeks to uncover the essence of participants' lived experiences by identifying recurrent patterns and meanings in the data (Naeem, Ozuem et al., 2023).

Thematic analysis enabled the identification of themes that reflected the unique challenges faced by APs in an underserved community, including emotional burden, limited access to professional support services, and reliance on informal support networks. This ensured that the findings remained grounded in the contextual realities of the participants rather than abstract theoretical interpretations.

3.2.6.2 *Contextual inquiry + context map*

Contextual Inquiry is a research method that provides comprehensive information about who the target group is and why they use (or don't use) certain services, products or their features. Contextual inquiry can be used in conjunction with other data-gathering and audience-analysis methods, such as questionnaires, or it can be used by itself (Raven & Flanders, 1996). Raven and Flanders (1996) describe contextual inquiry as a process where inquiry is used to gather information about the participants and their specific needs for online and hardcopy documentation. These authors summarised that inquiry is centred on three principles:

First Principle: Context

Data gathering must take place in the context of the users' life world. One definition of context is "the interrelated conditions within which something occurs or exists." Advocates of contextual inquiry realize that one is unable to fully understand what people are doing or why they are doing it unless one can see-

and perhaps experience-the interrelated circumstances in which these people work or use the services or products. Observing and talking with people based on the idea of performing certain tasks enables one to gather data that differs from the type of data one acquires from a questionnaire or a telephone survey. The questionnaires and telephone surveys often gives summary data and abstractions (Kendir et al., 2024), while data from contextual inquiry is largely concrete as it is based on in-the-moment experience or lived experiences (Kawakami et al., 2022).

Second principle: Partnership

The data-gatherer and the participant form a partnership to explore issues together. Contextual inquiry is different from a traditional interview as traditional interviews have an interviewer, who is in charge of the topics and flow of conversation. Contextual inquiry make the assumption that the inquirer and the participant are equals. In this research, the researcher is regarded as an expert at writing online help or coding in, and the participant is the one with the lived experience of the topic at hand. Holtzblatt and Beyer (1993) affirm that users as experts yield important results such as making it clear to the participant that the researcher did not come to solve problems and provide answers for technical questions, that it becomes appropriate for the researcher to ask questions, regardless of whether the questions sound naïve, and that it protects the researcher from misapprehending actions. Instead of focusing on her work, the researcher asked participants why they did certain things. Collaboration allowed the researcher and participant to explore matters together in order to improve the feature. Collaboration and partnership provided a way for the researcher to inquire and constantly validate the assumptions (Urry et al., 2024) that she made while observing the participants.

Third principle: Interpretation

The inquiry is based on a focus; that is, the inquiry is based on a clearly defined set of concerns, rather than on a list of specific questions (as in a survey). Contrary to a traditional survey, which consists of a specific set of questions that each participant is asked to answer, a contextual inquiry is based on a focus; that is, a perspective or set of concerns. Basing an interview on a focus rather than on a specific set of questions permitted the researcher the flexibility to follow a promising avenue of conversation that might not have been provided in a list of questions.

To support interpretation of the qualitative findings, the researcher conducted contextual interviews with the participants (Cheng et al., 2022). Contextual inquiries and semi structured interviews where the

researcher was able to ask more in-depth questions, were conducted. To cater for the participants' anonymity, all responses in the paper are anonymous and only minimal demographic information is reported in the dissertation. Participants included male and females from the rural community. After obtaining consent from the participants. The interviews followed a narrative approach with conversations lasting up to two hours. The researcher took notes on the actions and thought processes of each participant, while asking brief follow up questions as needed. Due to the sensitive nature of the research topic, the researcher did not audio record the contextual inquiry nor did the researcher take notes on any personal identifiable information. Following the contextual inquiry, semi-structured interviews were used to understand the application of salutogenesis to consider findings and factors which are responsible for promoting and maintaining health, as the healthy pole of a health-dis-ease continuum. Also, in particular, to gain further insight into possible mechanisms underlying any qualitative findings. With the commencement of each interview, the participant's background and experience of supporting the person suffering from substance addiction was discussed. Probing follow-up questions were asked based on the observations obtained during the body mapping activity (this included clarifying any questions about specific matters related to the activities done on the first day of the workshop). The researcher transcribed all interviews into text, and used thematic analysis to analyse data. The researcher then combined the data collected from both the contextual inquiry and interviews, which contained field notes.

3.2.6.3 Situational inquiry

According to Wells (2001), a situation is not something that we passively enter into, but rather something that we actively engage with through inquiry. It is a dynamic and dialectical process where we are not merely passive observers but active participants. The distinction between an organism and its environment, stimulus and response, body and mind, or cause and effect should be taken into account, as these are interconnected and influence each other. Inquiry refers to the process of controlled transformation of an unspecified situation into one that is specified in its distinctions and relations. It involves recognising and exploring conflicts between needs and realities, which then becomes the driving force behind inquiry. This unspecified feeling leads us to seek understanding and knowledge to address the conflicts and find solutions. Wells (2001) emphasises that learning is the ability to reflect on the transformations resulting from inquiry and to realise that a unified whole can be achieved for similar situations in the future. It is an ongoing process of making sense of the world and re-making it for ourselves. Learning also involves interaction with others and takes place within communities, often involving collaborative practices. Overall, inquiry-based events are what happens when people engage in

learning and actively seek to understand and transform their situations (James, 2023). It is a process of continuous exploration, reflection, and growth, where individuals and communities evolve and adapt based on their experiences and interactions with the world.

For APs supporting individuals with substance addiction, situational inquiry provided insight into how they continuously negotiate between personal needs, caregiving responsibilities, and community realities. This approach enabled the researcher to understand caregiving as a dynamic process shaped by ongoing interaction between personal experiences and environmental constraints.

3.3 Phase 2 – Digital intervention design

Phase 2 of the study takes a pragmatic philosophical stance, focusing on practical outcomes and the real-world applicability of research findings. Pragmatism is suitable for intervention research because it emphasises context-specific solutions and flexibility in methodology. These are vital for addressing the complex and multifaceted needs of APs. This phase focusses on designing and evaluating peer-led online social support interventions, integrating participant feedback and reflections to tailor the interventions to the lived experiences of APs. During this stage, an abductive research methodology is used - this combines factual data and qualitative insights to provide explanations and create solutions. The intervention is regularly improved to serve the APs better and through the application of Intervention design research (IDR), which combines theory with real-world, practical situations, support systems may be developed systemically.

3.3.1 Philosophy: Pragmatism

In Phase 2 of this study, the methodological philosophy is grounded in pragmatism, a philosophical approach that emphasises practical consequences and real-world applications of research findings. Pragmatism facilitates the integration of diverse methods and perspectives, focusing on outcomes that are actionable and relevant to the experiences of the participants (Kelly & Cordeiro, 2020). This approach is particularly suitable for exploring the complexities of support interventions for APs of substance addicts, as it allows for flexibility in methodology and an emphasis on context-specific solutions (Allemang et al., 2022). By employing a pragmatic lens, this phase aims to design and assess interventions that not only address the immediate needs of APs but also consider their ongoing experiences and challenges in a comprehensive manner. Furthermore, pragmatism supports a collaborative approach, engaging

stakeholders in the intervention design process to ensure that the resulting solutions are tailored to the actual needs of the community (Huynh et al., 2018).

3.3.2 Research approach: Abductive

An abductive approach was employed to explore and design interventions for APs supporting individuals addicted to substances. This approach is notably valuable when dealing with social contexts, such as understanding the challenges experienced by APs, as it provides the opportunity to navigate between existing theories and real-world observations to get to practical solutions (Dreamson & Khine, 2022).

Abductive reasoning in design provides the mechanism to make design ideas visible through a synthesis process when insufficient information exists on which to base the reasoning process (Kolko, 2010). It externalises ideas during idea development through a meaning-making process by forming connections. Users of the proposed solution often find it difficult to visualise the designer's ideas and may therefore be unaware of the synthesis process that took place, trying out different seemingly unconnected ideas. Peirce, a philosopher contributing towards a better understanding of pragmatism, is of the view that abduction is needed in addition to inductive and deductive reasoning to provide for new ideas. They further argue that abduction in design refers to new ideas in context with an expected utility value of the solution. Frames are mechanisms used by humans to make sense of their life worlds to allow for sensory experiences in addition to reasoning about one's worldview, to support the importance of understanding the problem (Kelly & Gero, 2022). Design frames are the different constructs of the problem, internal to the designer, to be solved, where its elements and relations are identified and named. It can also be an external representation in the form of sketches, diagrams, wireframes, etc. Design frames can also be design thinking tools or methods used to understand and represent the problem as it appears between the internal (thinking) and external spaces (Kolko, 2010). A proposed model of design frames refers to the design object (what) and working principle (how) – both unknown at the start of the design process, to lead to a desired value. Design frames are then used as a convergent thinking framing process to include both the "what" and the "how" of the design problem as the designer makes sense of the problem towards the solution. The practical application of this study was the creation of an online peer support group.

The situation in which the problem occurs influences the lived experiences of people and therefore also influences the framing process to design a solution that is suitable for their circumstances. According to Kolko (2010) synthesising actions are prioritising (to establish the importance of ideas), judging (to

establish relevancy), and forging connections based on potential relations (Kolko, 2010). The following methods, to represent a shift in semantic perspectives, are: reframing based on changing assumptions and insights gained, conceptual mapping, a representation of a mental model organising the relevant concepts and their semantic connections as a possible understanding of the problem; and insight combination building on design patterns to gain insights for new ideas (Kolko, 2010).

By utilising abductive reasoning, the study aims to identify gaps in current support services and develop tailored interventions that resonate with the lived experiences of APs, thereby enhancing their well-being. Moreover, the abductive approach encourages repetitive processes of assessment and modification, which permits continuous refinement of the intervention design based on participant feedback and contextual realities (Upmeier zu Belzen et al., 2021).

3.3.3 Research methodology: Intervention design

The research methodology in Phase 2 is focused on intervention design, where the insights gathered through the abductive approach are applied to develop targeted support services for APs struggling with supporting persons with a substance addiction. This phase aims to create peer-led online social support interventions that are responsive to the unique challenges identified in Phase 1. By incorporating feedback from APs and utilising their lived experiences, the intervention design becomes grounded in practical relevance and contextual appropriateness (Haines et al., 2021). This process involves the creation of guidelines for creating and maintaining support groups, as well as defining social media affordances that enhance connectivity and engagement among participants (Lin & Kishore, 2021). Furthermore, the intervention design aims to holistically address the needs of APs, providing them with resources that promote emotional well-being, reduce feelings of isolation, and improve overall quality of life. Ultimately, this phase aims to assess the suitability of the interventions, fostering a continuous cycle of feedback and improvement that aligns with the principles of pragmatism and abductive reasoning.

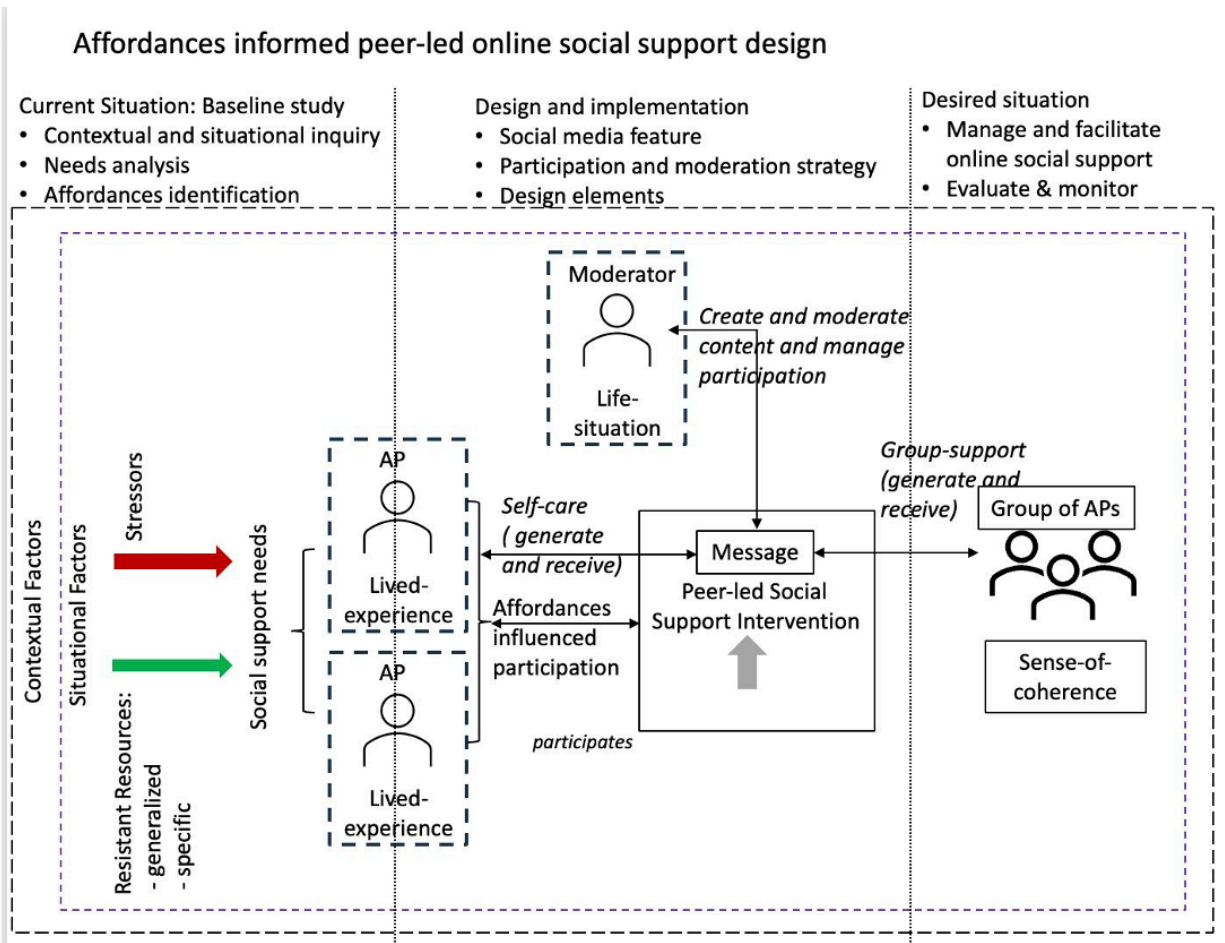


Figure 6: Proposed peer-led online social support intervention conceptual framework (Source: The Researcher)

The proposed peer-led online social support intervention conceptual framework guides the design research process by integrating contextual, situational, and resistant resource factors to develop an effective social support intervention. During the first phase, a baseline study of the current situation was done to provide the basis for the intervention design. Although a prototype intervention was developed towards the desired situation, it was not yet a fully functional, implementable service since other factors, such as logistical aspects, capacity building, and sustainability requirements, still need to be considered (Figure 6). Below is the process as interpreted and applied by the researcher for this study:

3.3.3.1 Baseline study (Best et al., 2024)

The framework emphasises a contextual and situational inquiry, which involves understanding the stressors and support needs of APs within underserved communities. A needs analysis identified specific gaps in existing support mechanisms, ensuring the intervention aligns with APs' lived experiences.

3.3.3.2 *Affordances Identification (Shin, 2022)*

By analysing social media affordances, the framework ensures the design incorporates tools that enable and facilitate self-care and group support (Cobb, 2024), such as, for example, messaging and content moderation.

3.3.3.3 *Design and implementation (Noroozi et al., 2023)*

The framework highlights the importance of creating strategies for participation and moderation, to ensure a safe and engaging environment. It focuses on the role of moderators in managing content, fostering meaningful interactions, and addressing group dynamics.

3.3.3.4 *Desired outcomes (Agudelo-Hernández et al., 2024)*

It aims to strengthen the sense of coherence among APs by improving their ability to manage, understand, and find meaning in their situations. The framework envisions an intervention that is continuously evaluated and monitored for effectiveness and sustainability.

This conceptual framework bridges theoretical and practical aspects of the design research process by offering a structured roadmap for developing a peer-led online social support platform that is adaptive to the unique needs of APs.

3.3.4 Research strategy: Intervention design research

The research strategy employed is IDR. IDR is crucial in the development of successful support systems for APs as it focusses on a systematic approach that combines theoretical frameworks with practical implementation, which allows for the creation of interventions that are not only evidence-based but also grounded in the real-world contexts of participants (Wang et al., 2021). This strategy encourages the co-design of interventions that ensures APs' voices and experiences are central to the process.

The design process for refining the proposed peer-led online social support intervention follows an iterative cycle of analysis, building, testing, reflecting, and refining, aligning with principles from design thinking and user-centred design methodologies. This approach involves analysing user needs and context initially, followed by building early prototypes based on these insights (Sanders & Stappers, 2008). The initial iteration serves as a rough draft, guiding further testing in real-life scenarios to observe how users interact with the prototype and identify areas for improvement (Mikal et al., 2013). After testing,

designers reflect on user feedback and refine the prototype, improving usability and functionality to meet user needs better (Nielsen & Molich, 1990). The designer used synthesis as an abductive reasoning approach to make sense of the problem and to consider ideas for a possible solution (Kolko, 2010). This process emphasises continuous user involvement to ensure the final prototype is both practical and effective. As each iteration is built, tested, and refined, the intervention evolves into a more polished, demonstrable prototype ready for final implementation and evaluation. This cyclical process not only strengthens the intervention's design but also ensures it remains responsive to user feedback and evolving requirements throughout its development (Longworth et al., 2024).

The framework draws upon principles and methodologies from multiple foundational works, particularly Mikal et al. (2013), Sanders & Stappers (2008), and Nielsen and Molich's (1990) usability heuristics. Mikal et al. (2013) inform the transition and evaluation stages by emphasizing the importance of iterative refinement, monitoring user engagement, and assessing the impact of digital peer-support platforms. Sanders and Stappers (2008) contribute the co-design approach, highlighting how involving participants in brainstorming and collaborative activities ensures that the intervention is grounded in user needs and experiences. Meanwhile, Nielsen & Molich's (1990) usability heuristics guide the prototyping and refinement process, ensuring the resource's design is intuitive, accessible, and responsive to user feedback. Together, these sources create a robust, participatory framework for designing and implementing effective online peer-led Social support interventions.

Adapted from the above, the following design process was followed:

Table 4: Design and development process for online peer-led social support resource intervention (BEACON OF HOPE) (plus pilot)

Stage	Goals	Activities	Expected Output	Target Users
1. Planning and Preparation (Refer to Phase 1)	<ul style="list-style-type: none"> • Understand the context to enhance support. • Explore current social support options. • Decide on suitable online platform and media affordances. 	<ul style="list-style-type: none"> • Conduct a needs analysis based on contextual influences on participants. • Select a suitable platform and relevant affordances • Decide on a recruitment strategy. 	<ul style="list-style-type: none"> • Identified stressors, resources, and social support needs. • A suitable platform. • List of suitable social media affordances. • Recruitment strategy. 	Persons who need social support.
2. Participant Engagement	<ul style="list-style-type: none"> • Gain insight into participants' interaction and response preferences. • Encourage participation in conversations based on a suitable theoretical lens. 	<ul style="list-style-type: none"> • Facilitate engagements with probing activities based on elements of online social support. • Reflect on the level and nature of participation engagements. • Monitor the experiences of the participants during the participation moments • Ensure adherence to ethical behaviour. 	<ul style="list-style-type: none"> • Social support categories. • Significant participation moments of participation experiences: engagement level, frequency on an individual/group level. • Content of conversation responses to probes. • Moderator role. • Ethical issues experienced 	Participants in the study.
3. Co-Design Sessions	<ul style="list-style-type: none"> • Design the peer-led social support group. • Encourage participation and monitor conversations. • Use social media qualities to facilitate participation. 	<ul style="list-style-type: none"> • Facilitate online discussions (emotional check-ins, resource sharing, etc.). • Document ideas, suggestions, and feedback. • Monitor the chats to ensure the conversations are appropriate. 	<ul style="list-style-type: none"> • Collaborative ideas and feedback. • Moderator role as facilitator 	Participants in the co-design process.

4. Development and Prototype	<ul style="list-style-type: none"> • Develop the online peer support group intervention. • Refine designs based on participant feedback. 	<ul style="list-style-type: none"> • Develop design elements to provide features (mood tracking, resource directories, and discussion boards). • Iteratively refine design elements. 	<ul style="list-style-type: none"> • Prototype key features. • Refinements based on feedback. 	Participants providing feedback.
5. Test and Refine	<ul style="list-style-type: none"> • Test the prototype's usability and refine it based on feedback. 	<ul style="list-style-type: none"> • Usability testing in real-life scenarios. • Refinement of features based on feedback (e.g., simplifying navigation). 	<ul style="list-style-type: none"> • Refined prototype based on usability testing. • Improved user experience 	Participants testing the prototype.
6. Implement and Evaluate	<ul style="list-style-type: none"> • Launch the peer-led web resource (PLWR) online. • Evaluate its effectiveness. 	<ul style="list-style-type: none"> • Launch the PLWR online and promote it. <ul style="list-style-type: none"> - Monitor user engagement, collect feedback, and conduct impact assessments. 	<ul style="list-style-type: none"> • Ongoing feedback collection. • Evaluation of the PLWR's effectiveness. 	Users engaging with the final PLWR.

3.3.5 Data collection methods: online chats, feedback, reflections

3.3.5.1 Online chats

During Phase 2, online chats via WhatsApp were used as the primary method of data collection. This platform enabled APs to engage in real-time discussions about their lived experiences, offering a flexible and accessible means of communication. While the platform did not ensure participant anonymity—due to visible identifiers such as phone numbers—strict confidentiality was maintained throughout. Identifiable information was removed during analysis, and pseudonyms or codes were used to protect participants' identities. Despite this limitation, the informal nature of the digital environment created a less intimidating space, encouraging open and honest sharing on sensitive topics. The digital format also enhanced accessibility, allowing participants from various geographic locations to participate at their convenience (Kaihlainen et al., 2022; Chauhan et al., 2024). This approach aligns well with the pragmatic design of Phase 2, supporting both flexibility in data collection and sustained interaction between the researcher and participants.

3.3.5.2 Chat feedback

Feedback was of vital importance to this stage to continue improving the design and implementation of the intervention. Throughout the study the participants provided valuable suggestions and feedback on the intervention, such as commenting on its relevance, how important it is for them, its usability and effectiveness. This feedback was gathered via questionnaires, polls, and informal discussions within the online chats. The collection of feedback on multiple occasions enabled real-time adjustments and refinements, ensuring that the intervention remained responsive to participants' needs. The interactive nature of this feedback facilitated the co-creation of a more relevant and user-centred intervention, thereby enhancing its impact and effectiveness.

3.3.5.3 Design reflections

Reflections played an essential role in Phase 2 data collection. It provided deeper insights into the personal experiences of the participants. Through reflective journaling in the diaries and prompted reflections shared during the study, participants were encouraged to consider their emotional and psychological responses to supporting individuals struggling with addiction. Reflecting helped participants and the researcher to capture participants' ever-evolving thoughts and feelings over time (Neale, 2021). This

reflective practice resonates with the interpretivist and abductive approaches used in the study by uncovering patterns and themes that may not be plain to see in the structured feedback. It contributes to the overall depth of the intervention design (Guo, 2022).

3.3.6 Data analysis: thematic analysis, content analysis, sentiment analysis

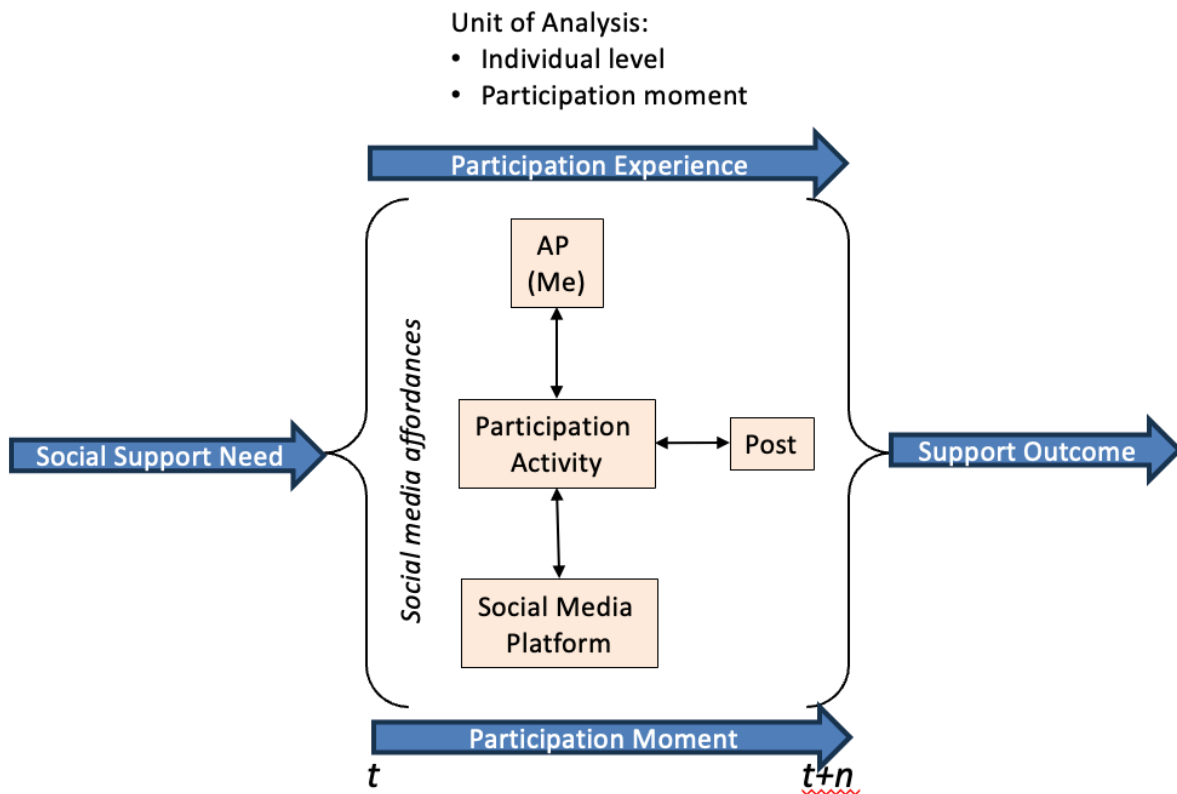


Figure 7: Unit of Analysis of a person's activity in the chat (Source: The Researcher)

In this context (see Figure 7), a chat refers to a sequence of related posts exchanged between participants, typically representing a single discussion or interaction within a larger communication platform. A post is an individual message or contribution made by a participant in the chat, which could include text, images, or other forms of shared content. A conversation is a broader grouping that may include multiple chats or exchanges, representing a more extended interaction or set of interactions on related topics.

Table 5: Example of a chat, post and conversation

Conversation	<p>[2024/07/10, 12:39:16] Chantal: Hello everyone 🌟💖🥰 The activity of today aims to recognize and celebrate each other's strengths and positive qualities. Self-esteem and recognizing our strengths can help us feel more connected and positive. 🌟🌟🌟🌟🌟</p> <p>Please share three strengths or positive qualities you see in yourself. They can be personal qualities, skills, or achievements. 🌟🌟🌟</p> <p>Example: "I am patient, a good listener, and have a strong work ethic."</p> <p>Participants can use a collage-making app or online tool to create a visual collage that represents their strengths. They can use images, words, and colors that resonate with the strengths they have identified. 🌟. Also, feel free to mention qualities you see in others in this group ☑️ 🥰 YOU CAN RESPOND DURING THE DAY, PLEASE 🥰🌟</p>		Probe
	<p>[2024/07/10, 12:44:23] Kim 1: I prioritize my health and maintain a consistent workout routine. I collaborate well with others and contribute effectively to group projects. I quickly adjust to changing circumstances and new environments.</p>		Response from participant
	<p>[2024/07/10, 12:45:11] Chantal: Kim, your commitment to physical fitness is inspiring. How does that tie into your teamwork and adaptability?</p>		Response from facilitator
	<p>[2024/07/10, 12:46:05] Kim 1: Well, staying fit keeps me energized and ready to collaborate. It also helps me adapt to different roles within a team, depending on what's needed. Flexibility is key. 🌟</p>		Response from participant
	<p>[2024/07/10, 12:46:31] Chantal: Absolutely, flexibility is crucial. 🌟🌟</p>		Response from facilitator
	<p>[2024/07/10, 12:47:43] Mummy: I am great at planning and keeping things in order. 🧘♀️ I have a calm attitude and I can handle stressful situations calmly. I also enjoy helping others and spreading positivity wherever I go. 🌟🌟</p>		Response from participant
	<p>[2024/07/10, 12:48:10] Chantal: That's fantastic to hear.</p>		Response from facilitator
	<p>[2024/07/10, 12:48:40] Jesse: I excel at analyzing data and solving complex problems. I never give up easily and always strive to achieve my goals. I find innovative solutions to problems and enjoy thinking outside the box.</p>		Response from participant
	<p>[2024/07/10, 12:49:04] Chantal: Jesse, your perseverance is admirable. Can you share how you maintain that drive?</p>		Response from facilitator
	<p>[2024/07/10, 12:49:36] Courtney Settley: I'm confident in leading teams and projects effectively. I am able to express ideas clearly and listen actively, and I maintain a positive outlook even during challenging times.</p>		Response from participant
	<p>[2024/07/10, 12:49:42] Jesse: Sure thing. I set clear goals and stay committed. Even when things get tough, I keep pushing forward. It's about staying focused on the end result.</p>		Response from participant
	Post	<p>[2024/06/26, 11:07:13] Kim 1: Morning everyone</p> <p>Participant initiated</p> <p>Giving update on previous shared story</p> <p>Just an update.... My brother is back home My uncle negotiated with the man and arranged to pay for damages But we have work to do on him I'm at work today Wish you all a wonderful day</p>	
<p>[2024/06/26, 11:07:57] Jesse: image omitted</p> <p>Participant initiated</p> <p>Good morning message</p> <p>[2024/06/26, 11:08:39] Jesse: Hello all That's good news K! You are so resilient 🌟</p>			
<p>[2024/07/01, 10:14:42] Chantal: Morning everyone 🌟</p> <p>Response from facilitator</p> <p>Expressing concern about quietness</p> <p>I trust you had a good weekend. You have been quiet 🌟 Have a pleasant week ahead! 🌟🌟</p>			
<p>[2024/06/24, 16:11:25] Jesse: Online Communities and Forums: Check out SANCA (South African National Council on Alcoholism and Drug Dependence). They have an active online forum where caregivers and individuals affected by addiction share support and advice. Financial Aid organisations: Does this refer to medical aid benefits? I know they have support groups etc. I strongly believe that employers should have some sort of assistance for their employees who struggle with issues related to addiction and for those affected by it.</p> <p>Response</p> <p>Sharing information</p> <p>[2024/06/24, 16:11:57] Jesse: I hope this helps Will do some research on more</p>			
Chat			

WhatsApp was selected as the intervention platform due to its widespread use, low data consumption, accessibility on basic smartphones, and familiarity among participants within the underserved community. The platform supports both synchronous and asynchronous communication. This allows participants to engage based on their availability and comfort levels. Its encryption and closed-group

functionality further support confidentiality and trust, which are essential when discussing sensitive issues such as substance addiction and caregiving experiences.

Probe-based conversations were employed to guide discussion while allowing participants to freely express their lived experiences. This approach enabled the researcher to explore specific research objectives while remaining responsive to emerging issues raised by participants. Probes encouraged reflection, depth, and emotional expression, making them particularly suitable for capturing the complex caregiving realities of APs.

3.3.6.1 Thematic analysis

Thematic analysis is a qualitative method used to identify, analyse, and report patterns (or themes) within data. It is valuable in the sense that it offers rich, detailed and complex accounts of the data (Castleberry & Nolen, 2018). It is comprised of a systematic process of familiarizing with data, coding, theme development and reviewing. This allows researchers to interpret data in a manner which is on par with their research questions. Themes capture the significance of the data in relation to the research objectives. The process began with the researcher immersing herself in the data through reading the transcripts and reviewing documents multiple times in order to identify emerging codes. The codes were then grouped into themes which were reviewed and refined to ensure they rigorously represent the dataset. Thematic analysis is commonly used as it is versatile and possesses the capacity to handle large volumes of qualitative data, making it beneficial for researchers (Kiger & Varpio, 2020).

Thematic analysis was selected to capture the depth and complexity of participants' lived experiences and to allow themes to emerge inductively from the data. This approach was suitable for understanding the subjective meanings APs attached to their caregiving roles and emotional wellbeing.

3.3.6.2 Data analysis: Content analysis

Content analysis is used for making replicable and valid inferences by interpreting and coding textual material. It enables researchers to systematically quantify and analyse the occurrence of certain words, themes or concepts within qualitative data. It is also more structured and focusses more on the frequency of certain elements than thematic analysis (Jaspal, 2020). The researcher began by identifying a set of categories and went through the data to count how often the categories appear. Content analysis is also

able to handle large datasets systematically, allowing for clear, replicable results (Gläser-Zikuda et al., 2020).

Content analysis complemented thematic analysis by enabling the systematic examination of recurring concepts and patterns across conversations. This strengthened the rigor of the analysis by providing quantifiable evidence to support qualitative interpretations.

3.3.6.3 Data analysis: Sentiment analysis

Sentiment analysis focuses on identifying and categorizing opinions expressed in a piece of text to establish the writer's attitude toward a particular topic. It analyses textual data and classifies it as positive, negative, or neutral (Kumar & Sebastian, 2012; Wankhade et al., 2022). By automating the analysis of large datasets, real-time insights can be provided by sentiment analysis (Kavitha et al., 2018). Sentiment analysis has the ability to rapidly process large amounts of unstructured data. This enables the decision-making process as it provides insight.

Sentiment analysis was incorporated to capture the emotional tone underlying participants' textual expressions. This approach allowed the researcher to identify shifts in emotional states over time, providing additional insight into participants' wellbeing and engagement with the intervention.

The combination of thematic, content, and sentiment analysis provided methodological triangulation, enhancing the credibility and richness of the findings. Combined, these approaches enabled both interpretive depth and analytical rigor, ensuring that cognitive, emotional, and contextual dimensions of participants' experiences were comprehensively examined.

3.3.7 Intervention deliverables

3.3.7.1 Peer-led online social support intervention (proposed intervention)

Peer-led online social support interventions aim to create a virtual space where individuals affected by supporting persons with substance addiction can find emotional support and practical advice from peers. This intervention influences the power of shared understanding and lived experiences which enables the APs to participate in discussions concerning their challenges and their coping mechanisms. Furthermore, peer-led online social interventions create a sense of community and belonging (Kamicar et al., 2024).

3.3.7.2 Guidelines for creating and maintaining such a group

Comprehensive guidelines are essential to ensure the success and sustainability of a peer-led online support group (Gerritzen et al., 2024). These guidelines should describe the steps involved for creating a safe, inclusive, and supportive environment emphasizing the importance of establishing clear community norms, roles, and boundaries. The guidelines should also address privacy concerns, confidentiality, and moderation practices to ensure a respectful space for participants to be comfortable in sharing their personal experiences. The guidelines should also include recommendations for consistent engagement (Aldhayan, 2021), for example, regular online meetings or discussion prompts, to ensure active participation. Another important element is to include strategies for recruiting and training peer leaders, who will facilitate the group dynamics and ensure the support offered aligns with the PCC approach (Best et al., 2024). During the pilot in phase 2 feedback was considered to create guidelines.

3.3.7.3 Social media affordances preferences

During the design of an online peer support group, it is important to understand the participants' preferences for social media affordances (Chen & Peng, 2023). Various platforms offer a variety of features (Bonina et al., 2021) that influence how users interact, share, and receive support. For more intimate, private conversations, some people may opt for private messaging or closed groups; for communicating with a larger audience, others would prefer wider forums or feed-based interactions. By identifying the preferred features of the platforms- such as ease of access, anonymity, sharing of multimedia, or real-time chat- it helps in the design of the intervention as it is based on the needs of the participants (Chen & Peng, 2023). Acknowledging the affordances guarantees that the selected platform aligns with the participants' social and emotional needs, improving the overall effectiveness of the support network.

3.3.7.4 Design principles (design elements)

Inclusivity, user-friendliness, and adaptability should be the cornerstones of a peer-led online support intervention (Sinha & Lee, 2024). Making the platform accessible to participants, regardless of their technology literacy or the availability of resources, is one of the guiding principles. The design should prioritise ease of use, with clear communication channels and easy navigation to minimise obstacles. The platform should ensure safety, confidentiality, and privacy to promote participation and a sense of safety.

Other elements include scalability and adaptability- this allows the intervention to expand as necessary and change to meet the needs of participants (Hasinoff & Schneider, 2022).

3.3.7.5 *Intervention evaluation and feedback*

Evaluation requires measuring the success of the intervention and making the necessary adjustments. Participant feedback provides important insights into the impact of the platform - feedback such as the standard of peer interactions, the value of shared resources and the general structure of the platform (Chen & Peng, 2023). Additionally, tracking retention engagement, and involvement over periods of time might be useful in determining whether the group can remain viable long-term (Amagai et al., 2022; Winter et al., 2022). The evaluation process should therefore be continuous so that frequent adjustments can be made to the platform (Essen et al., 2023).

3.4 **Summary of Phases 1 & 2**

The methodological framework for developing a peer-led online social support Intervention is seen in Table 6 below:

Table 6: Methodological framework for developing a peer-led online social support intervention: Phases and approaches developed from the research design discussed above

	Phase 1	Phase 2
Philosophy	Interpretivism	Pragmatism
Approach	Inductive	Abductive
Methodology	Exploratory Sequential Mixed Methods Design	Intervention design
Strategy	Phenomenology (lived experience)	Intervention Design Research
Data Collection	Interviews, Questionnaires, Diaries, C-design workshops	Online chats Feedback Reflections

Data Analysis	Thematic analysis	Thematic analysis Content analysis Sentiment analysis Combined data sets
Outcome	Context & situational analysis Needs based on lived experiences Stakeholder map	Peer-led online social support intervention Guidelines for creating and maintaining such a group Social media affordances preferences Design principles Intervention evaluation and feedback

3.5 Data management

Data management in research is a critical process that ensures the systematic collection, organisation, storage, and dissemination of data while maintaining quality, confidentiality, and compliance with ethical standards (Pina et al., 2024). Proper data management strategies are essential for ensuring data integrity and protecting participant privacy throughout the research process. Data will be destroyed per institutional requirement.

Strategies were implemented to enhance the trustworthiness of the qualitative and digital data. Trustworthiness was ensured through credibility, dependability, confirmability, and transferability. These criteria guided the research process to ensure that findings accurately reflected participants’ experiences.

3.5.1 Data collection

Data collection in data management deals with systematic methods for obtaining accurate and relevant information from participants or other sources to meet research objectives (Guest et al., 2013). Various data collection methods such as interviews, focus groups, surveys, and observation are often employed, depending on the research design and objectives (Karunarathna et al., 2024). In this study, I collected data using interviews, diaries, body mapping, and focus groups. These methods align with the research objectives and are expected to yield rich, detailed data while ensuring reliability and validity through triangulation.

3.5.2 Transcription

The transcription process involves converting collected data, typically qualitative, from audio or video recordings into written form for analysis. Accurate transcription is vital to ensure that the nuances of participants' voices are captured and reflected in the data (Craig et al., 2021). All collected data have been transcribed using secure software or manual transcription by the research team. Quality control measures have been implemented to ensure accurate data representation, and transcription has occurred in a secure environment to maintain confidentiality and prevent privacy breaches.

3.5.3 Data storage

Data storage is a fundamental part of data management, ensuring that collected data is securely stored and easily accessible for analysis and future reference (Kumar et al., 2023). Proper storage solutions also protect the integrity and confidentiality of the data. The collected data has been securely stored in the research team's hard drives and laptops. These storage solutions comply with the guidelines issued by the Cape Peninsula University of Technology (CPUT) to safeguard data integrity and ensure data is readily accessible for analysis, while adhering to institutional policies on data storage.

3.5.4 Anonymisation

Anonymisation is the process of removing identifiable information from data to protect participant privacy (Sampaio et al., 2023). It is an essential step in ensuring compliance with ethical guidelines and data protection regulations. To protect the privacy of participants, the data has been anonymized by removing identifiable information such as names, addresses, or other personal details. This process was performed before analysis and dissemination to maintain ethical standards and to comply with data protection regulations, including CPUT's privacy policies.

3.5.5 Data protection

Data protection is a critical aspect of data management. It ensures that data is safeguarded against unauthorized access, loss, or misuse (Shukla et al., 2022). Security measures such as encryption, password protection, and regular audits are implemented to guarantee the protection of sensitive data. Access to the data has been restricted to only the research team, with password protection, encryption, and other

security measures in place to prevent unauthorized access. Regular audits were conducted to verify the security of stored data, ensuring that it remains secure throughout the research process.

3.5.6 Data dissemination

Data dissemination is the process of sharing research findings with the academic community and the public, ensuring that research contributes to broader knowledge and practice. In this study, the findings will be disseminated through academic publications, conferences, and institutional reports. However, any shared data will be anonymised and presented in aggregate form to ensure participants' confidentiality. Data sharing will comply with CPUT's data sharing policies and ethical approval (Appendix 3), with all personal information omitted from public dissemination to maintain participant anonymity and privacy.

3.5.7 Compliance with guidelines

Compliance with institutional and ethical guidelines ensures that the research process is conducted with transparency and integrity (Roje et al., 2023). This data management plan has been designed in accordance with the Data Management Guidelines available on the CPUT website under the library section. All procedures have been regularly reviewed to ensure alignment with institutional policies, data management best practices, and ethical standards. Compliance is continuously monitored throughout the research to maintain adherence to all applicable guidelines.

3.6 Ethical considerations

The researcher ensured that ethical standards were upheld throughout the research design to protect the rights and wellbeing of the participants. Prior to commencing the study, ethical clearance, and number was obtained from the Cape Peninsula University of Technology and the ethics committee of the faculty of Informatics and Design. Principles of beneficence, respect for human dignity, and justice were followed to guide the research process (Cheraghi et al., 2023).

Ethical considerations played a pivotal role in guiding the research on online digital interventions for APs supporting substance-dependent individuals. Given the sensitive nature of the study, which involved exploring the experiences and challenges faced by those supporting substance-dependent individuals, a comprehensive ethical framework was established to protect participants' rights and well-being.

Ensuring informed consent, maintaining confidentiality and anonymity, and prioritizing participant wellbeing were at the forefront of the research design. Voluntary participation was emphasised to respect the autonomy of the participants, allowing them to opt out at any stage without any repercussions. Rigorous data protection measures were implemented to safeguard personal information, reflecting the commitment to privacy and security.

The integrity of the research was upheld through transparency, honesty, and adherence to ethical standards, reinforced by the approval from the institutional review board. Additionally, strategies were in place to handle the sensitive nature of the topics discussed, providing support to participants and ensuring that their emotional and psychological needs were met.

These ethical considerations ensured that the research was conducted with the utmost respect and care for all individuals involved, fostering an environment of trust and safety throughout the study.

3.6.1 Informed consent

Informed consent was a critical aspect of this study to ensure that participants were fully aware of the nature and purpose of the research. Prior to participation, individuals were provided with a detailed information sheet outlining the study's aims, procedures, potential risks, and benefits. Participants were also informed about the use of technology-enabled interventions and how their data would be utilized in this study (Sahan et al., 2024). Consent forms (Appendix 4) were designed to be clear and understandable which ensured that participants could make an informed decision about their involvement. Additionally, participants were informed that they may ask questions at any time in order to assure that their participation was voluntary.

3.6.2 Confidentiality and anonymity

To maintain the confidentiality and anonymity of all participants (Ferrara et al., 2024), strict measures were implemented. Personal identifiers were removed from all data, and each participant was assigned a unique code (e.g., Participant 1, Participant 2, etc). Data was stored securely on encrypted servers, and access was restricted to authorised members of the research team only. During the reporting of findings, no identifying information was disclosed, ensuring that participants could not be recognised. These

measures were crucial in building trust and ensuring that participants felt safe and protected throughout the study.

3.6.3 Participant well-being

The wellbeing of participants was a primary concern in this research, given the sensitive nature of supporting substance-dependent individuals. Procedures were put in place to provide support for participants who might experience distress during the study, particularly during interviews or when participants disclosed sensitive information (Karunarathna et al., 2024). This included access to counseling services and providing resources for additional support. Regular check-ins were conducted to monitor participants' emotional and psychological state, ensuring that any issues were promptly addressed. The use of technology-enabled interventions was designed to be user-friendly and supportive, minimising any potential stress or discomfort (Pavlopoulos et al., 2024).

3.6.4 Voluntary participation

Participation in the study was entirely voluntary. Participants were informed of their right to withdraw from the study at any point without any negative consequences. This was clearly communicated during the consent process and reiterated throughout the study. The voluntary nature of participation ensured that individuals felt empowered and respected, contributing to the ethical integrity of the research (Pahuja, 2024).

3.6.5 Data protection

Data protection protocols were followed to safeguard participants' information. Data was encrypted during collection, storage, and transmission to prevent unauthorised access. Access to data was limited to the research team (researcher and supervisors), and regular audits were conducted to ensure compliance with data protection standards (Adekugbe & Ibeh, 2024). A data management plan was developed, outlining procedures for data handling, storage, and eventual destruction after the study's completion. These measures ensured that participants' information was securely protected at all stages of the research (Pina et al., 2024).

3.6.6 Researcher integrity

The researcher maintained high ethical standards throughout the study, adhering to principles of honesty, transparency, and accountability. Conflicts of interest were disclosed, and the researcher committed to reporting findings truthfully and accurately. Efforts were made to avoid any form of bias, and the research design was carefully considered to ensure fairness and objectivity. This commitment to integrity was crucial in maintaining the credibility and ethical soundness of the study.

3.6.7 Approval from the ethics committee

The research received approval from the ethics committee prior to commencement. The approval process involved a thorough review of the study's methodology, ethical considerations, and potential risks to participants. The ethics committee provided valuable feedback, ensuring that the research adhered to ethical standards and guidelines. This approval was essential in legitimising the study and ensuring that it met all ethical requirements.

3.6.8 Handling sensitive topics

Given the sensitive nature of the research topic, protocols were established to handle potentially distressing content (Hennessy et al., 2022). Participants were informed in advance about the nature of the discussions and the possibility of encountering sensitive topics. The research team was trained to handle emotional distress, providing support and referrals to appropriate services when necessary. A debriefing session was conducted at the end of the study to help participants process their experiences and feelings, ensuring that they left the study with a sense of closure and support.

These ethical considerations were fundamental in conducting the research responsibly and ensuring the protection and wellbeing of all participants involved in the study on online digital interventions for APs supporting substance-dependent individuals.

3.7 Delineation

The study found that the findings may not be directly applicable to the rural area due to contextual differences. The researcher acknowledged that the context in which the study was conducted might influence the results and generalisability of the findings to other settings. Another limitation identified in

the study was the reliance on self-reported data, which may be subject to biases such as selective memory, telescoping, attribution, and exaggeration. The potential for biases in self-reported data could affect the accuracy and validity of the study's results. Additionally, the study highlighted potential challenges in implementing technology-enabled support intervention services in rural areas, particularly in terms of accessibility, connectivity, infrastructure, and technical support. These challenges may hinder the effective implementation thereof and, in turn, impact the overall wellbeing of individuals supporting people suffering from substance addiction in the rural context. Considering these limitations and challenges, the researcher acknowledged the need for cautious interpretation of the findings and emphasised the importance of contextualising the results when applying them to other settings or populations. The study served as a starting point for understanding the needs and experiences of individuals supporting substance-dependent individuals in underserved communities and shed light on the potential benefits and challenges of implementing technology-enabled support services in such contexts. Further research and adaptation of interventions may be necessary to address the specific contextual factors in rural areas and ensure the successful implementation of support services for this population.

3.8 Chapter conclusion

At the end of Phase 2, an online peer-led social support intervention is created. This intervention is specifically designed to meet the requirements of APs. The abductive approach guarantees that the focus stays on meaningful, actionable solutions, while pragmatism allows for flexible adaptation. Online chats, discussions and reflections are a few examples of data gathering techniques that promote a collaborative environment that also allows APs to participate in meaningful discussions and offer immediate feedback on the usefulness and relevance of the intervention. Data is evaluated using sentiment, content and theme analysis to provide a thorough insight into the needs and experiences of the participants. This phase's outputs include the intervention itself, as well as recommendations for starting and facilitating such a group, preferences for social media affordances, and design principles that guarantee inclusion, safety and flexibility. The intervention should be continuously be evaluated and feedback should be received in order to ensure that the intervention is sustainable and effective.

CHAPTER 4: PHASE 1 – RESULTS OF APs’ LIVED EXPERIENCES

4.1 Introduction

In this chapter, the results and analysis of both the qualitative and quantitative data are analysed and reviewed. The qualitative data analysis involved examining the information gathered through methods such as focus groups, take-home diaries, body mapping, and individual interviews. The researcher carefully analysed and interpreted the data to gain a deeper understanding of the research subject, which are presented in tables, figures and text. Additionally, the chapter includes a discussion of the compilation of the questionnaire used in the study and the analysis and results of the quantitative findings. The quantitative data analysis involved statistical methods to analyse the data collected through the questionnaire, providing numerical insights into the research topic. The findings from both qualitative and quantitative analyses are then compared and contrasted with previous research findings and available literature. This comparison helps identify similarities and differences between this study and earlier studies, allowing for a more comprehensive understanding of the research area. Overall, this chapter builds upon the detailed research methodology presented in Chapter 3 and presents the key findings of the study, providing valuable insights into the research topic and contributing to the existing body of knowledge in the field.

4.2 The demonstration case: The context of the rehabilitation facility in a rural town in the Western Cape Province

The demonstration case is situated in a compromised area where the contextual factors impact the lived experiences of the people in that community. The community partner is the rehabilitation facility providing rehabilitation services to persons with an addiction problem who cannot afford private rehabilitation services. A variety of reliable and openly accessible sources, such as statistics databases, publications from the government, and peer-reviewed literature, provided the contextual data for this research. These include the socioeconomic profiles released by the Western Cape Government (2020a; 2023), the community profile data from Statistics South Africa (2024), institutional reviews like the Worcester Provincial Hospital report (Western Cape Government, 2020b), national department reports from the Department of Arts and Culture (2020).

The Toevlug Rehabilitation Centre, located in Worcester in the Breede River Valley, was established in 1978 and is registered under the Law on the Prevention and Treatment of Substance Abuse. It offers a range of services, including inpatient treatment for voluntary inpatients for youth ages 13 to 18. The Centre provides a comprehensive approach to intervention, including awareness and prevention, early intervention, inpatient treatment, and reintegration/aftercare. Worcester is a significant town in the Western Cape of South Africa, serving as the administrative capital of the Breede Valley Local Municipality and a regional hub for government departments. It is also a prominent commercial and retail centre in the region (Figure 8).



Figure 8: Toevlug Rehabilitation Centre, Worcester, Western Cape

Worcester has a population of approximately 97,000 residents. The town's demographic composition reflects South Africa's diverse society. The population is a mix of a variety of ethnic groups and consists of a significant proportion of Coloured (mixed-race) individuals, followed by Black African and White residents. The town's age distribution displays a youthful population, with a considerable number of residents under the age of 35. With regards to gender distribution, Worcester has a fairly balanced ratio of males to females; however, there are slightly more females than males, consistent with broader demographic trends in South Africa (Statistics South Africa, 2024).

The Breede Valley Local Municipality, located in the Western Cape, South Africa, had a population of 212,682 in 2022, covering an area of 3,834km², resulting in a population density of 55.47 people per km². The annual population growth rate from 2011 to 2022 was 2.4% (Figure 9).

Name	Status	Population Census 1996-10-09	Population Census 2001-10-09	Population Census 2011-10-09	Population Census 2022-02-02
Breede Valley	Local Municipality	129,984	146,387	166,825	212,682
Breede Valley					
<ul style="list-style-type: none"> ● 212,682 Population [2022] – Census ○ 3,834 km² Area ● 55.47/km² Population Density [2022] 📈 2.4% Annual Population Change [2011 → 2022] 					
Breede Valley Local Municipality: local municipality in the Western Cape, South Africa – Inception: 2000 – Elevation: 662 m					
South Africa	Republic	40,583,573	44,819,778	51,770,560	62,027,503

Figure 9: The population development of Breede Valley, as well as related information and services (Statistics South Africa, 2024).

Further information about the population structure can be seen in Figure 10 below:

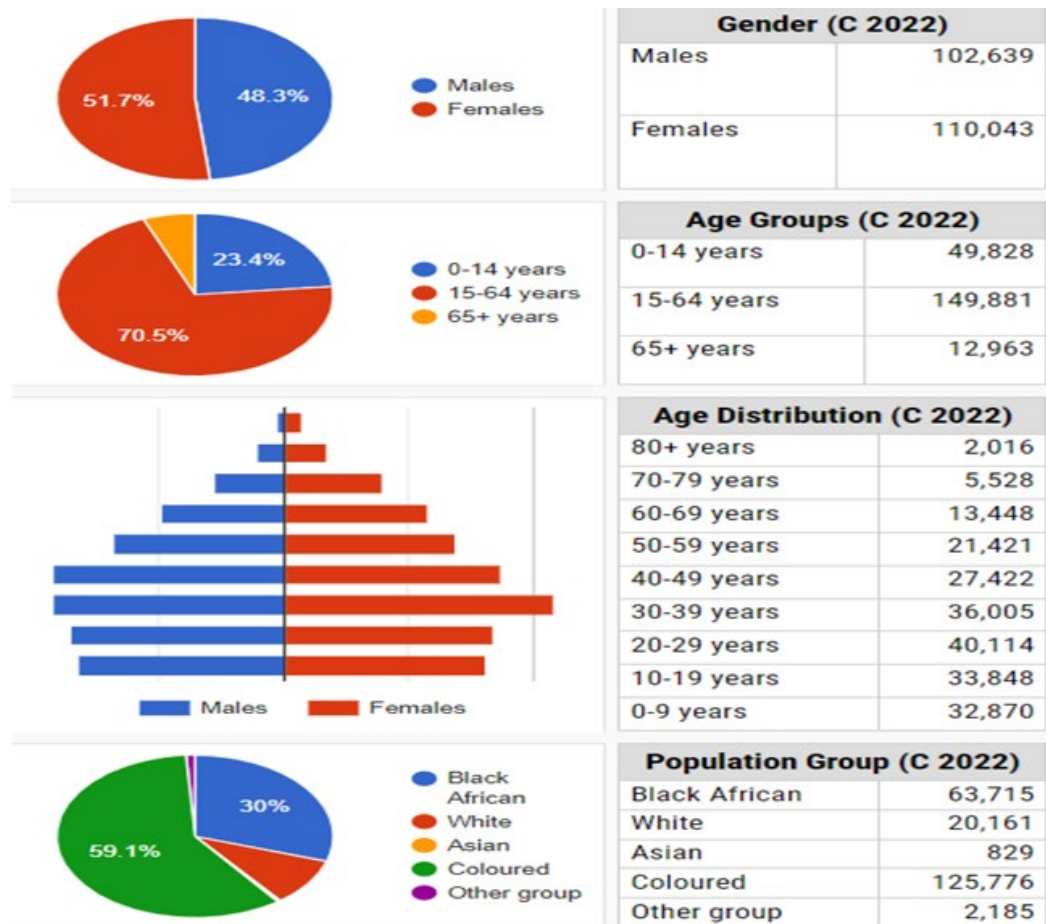


Figure 10: Gender, age groups, distribution and population groups in the Breede Valley

4.2.1 Economy of the area

The area's economy is multifaceted, with agriculture as its primary sector. Surrounded by fertile lands, the region is ideal for viticulture and the cultivation of fruit crops. The Breede Valley is one of South Africa's key wine-producing regions, with the community playing a central role in this industry. Numerous vineyards and wineries in the vicinity contribute to local employment and tourism.

Additionally, the area has a diversified economy, including sectors such as manufacturing, retail, and services. It hosts various factories and industrial operations, providing employment and supporting economic stability. The retail sector is also robust, comprising shopping centres, local markets, and businesses catering to both residents and visitors (Western Cape Government, 2020b).

4.2.2 Social challenges

Despite its economic vitality, the community faces significant social challenges:

4.2.2.1 Unemployment and poverty

Unemployment and poverty are persistent issues, particularly in less affluent parts of the area. These challenges are exacerbated by disparities in education and access to resources. While there are several well-regarded schools and educational institutions in the region, not all residents have equal access to quality education, potentially perpetuating cycles of poverty (Western Cape Government, 2020b).

4.2.2.2 Crime and socio-economic Inequalities

Socio-economic inequalities, unemployment, and substance abuse drive crime in the community (Vargas, 2023).

4.2.3 Healthcare in the community

According to the Western Cape Government (2020b), healthcare is a critical concern in the area. Although there are healthcare facilities, including hospitals and clinics, access to quality care remains uneven. Efforts are underway to improve services and address disparities, particularly in underserved areas.

4.2.4 Cultural life and recreational activities

The community is a vibrant cultural mosaic, with a rich heritage reflected in its festivals, traditions, and community activities. Annual events, such as the Wine and Olive Route Festival, celebrate the region's agricultural bounty, fostering community spirit and attracting tourists, which in turn contributes to the local economy.

Social life in the area is vibrant, offering various recreational activities and community groups. The scenic surroundings provide numerous outdoor opportunities, from hiking in the nearby mountains to exploring the Breede River. Sports are also popular, with facilities and clubs supporting activities such as rugby, soccer, and cricket.

4.2.5 Substance abuse challenges

Like many communities in South Africa, the area faces significant issues related to drug abuse.

4.2.5.1 Impact of crystal methamphetamine on the community

One of the most prevalent and destructive substances in the area is crystal methamphetamine, locally known as "tik." Its widespread abuse, particularly among young people and those in economically disadvantaged areas, mirrors trends seen across the Western Cape.

4.2.5.2 Effects on individuals

The effects of tik on individuals are severe and multifaceted. Physically, long-term use can lead to health problems such as heart issues, dental decay, and neurological damage. Psychologically, it is associated with severe mental health issues, including paranoia, hallucinations, aggression, and cognitive decline. These issues often result in strained relationships, criminal behavior, and financial instability, exacerbating cycles of poverty and addiction.

4.2.5.3 Impact on caregivers

Caregivers, often family members, face immense challenges. They are thrust into roles requiring emotional, physical, and financial support for their loved ones. The stress of dealing with an addict's behavior and the fear of overdose or legal troubles significantly affects caregivers' mental health.

Financially, supporting an addict can drain resources, as caregivers may cover medical treatment, rehabilitation, and legal fees.

4.2.6 Community initiatives and support

Efforts to address tik abuse in the area involve collaboration between the community, healthcare providers, law enforcement, and government agencies.

4.2.6.1 Awareness and education

Local organisations and schools are working to raise awareness about the dangers of tik and other drugs. Educational programmes aim to inform young people about the risks of drug use and provide skills to resist peer pressure.

4.2.6.2 Rehabilitation and treatment

The community has several rehabilitation centres and clinics offering treatment for substance abuse. These facilities provide medical detoxification, counseling, and support groups to help individuals recover from addiction. However, demand for these services often exceeds available resources.

4.2.6.3 Law enforcement

The South African Police Service in the area actively combats drug trafficking and distribution. Policies aimed at reducing drug-related crime and improving community safety are critical. However, a balance is needed to ensure addicts are treated as individuals in need of help rather than solely as criminals.

4.2.6.4 Community support and reintegration

Community leaders play a vital role in fostering a supportive environment for recovery. Initiatives such as recreational programmes, job training, and youth engagement activities provide alternatives to drug use and help reintegrate recovering addicts into society.

The challenges posed by tik in the community are complex, affecting individuals, families, and the broader society. Substance abuse results in severe health, social, and economic consequences, while caregivers bear a heavy burden. A comprehensive and collaborative approach is essential to address these issues,

including raising awareness, improving access to treatment, supporting caregivers, enhancing law enforcement efforts, and fostering community initiatives.

The resilience and cooperation of the community are vital to overcoming this challenge and establishing a healthier environment for all.

4.2.7 Contextual and situational factors

Both contextual and situational factors which shaped this study are informed by environmental conditions and the biographical realities of the participants, who represent a cross-section of APs living in the Breede Valley. The challenges they face are influenced by socio-economic dynamics, the patterns of substance abuse, and access to resources as these influence their ability to cope and affect their psychosocial well-being.

4.2.7.1 Stressors

A combination of personal and structural stressors originates from both the contextual data and the biographical profile of the participants:

- The majority of participants (n=19; 73%) were female caregivers, who, traditionally, assume primary caregiving roles in households affected by addiction. This gendered expectation places disproportionate emotional, physical, and financial strain on women (Settley, 2020).
- In terms of age, most participants (30.7%) were between 41–50 years old, with a mean age of 48.93. This suggests that caregivers are often in a life stage where they may be supporting both younger dependents and older relatives, and they now simultaneously have to manage the demands of caregiving in a substance-dependent situation.
- Many participants did not have formal education: only 19% had tertiary qualifications, and 46% had completed secondary education. This corresponds with regional data and reflects a potential barrier to upward mobility and access to better employment (Western Cape Government, 2020a).
- Employment status was a significant stressor, as 35% of participants were unemployed, and another 15% were casual workers with unpredictable income. Financial insecurity poses challenges to caregiving, especially when supporting a person with substance addiction who may require ongoing medical or rehabilitation expenses.
- The local prevalence of substance abuse, in particular, the use of crystal methamphetamine (tik), greatly disrupts family structures and burdens caregivers with chronic stress and trauma (Western Cape Government, 2023).

4.2.7.2 *Environmental factors*

The Breede Valley is economically diverse, with well-established agriculture, manufacturing, and retail sectors, yet socio-economic inequalities remain, particularly in historically marginalized areas. Participants' demographic profile, including language (73% Afrikaans speakers) and marital status (65% married), reflects the local community's composition and helps to contextualize caregiving roles and household structures.

Despite the presence of healthcare facilities such as the Worcester Provincial Hospital, access to mental health services and rehabilitation is limited, specifically for low-income families. This affects both the substance user and the AP, who may not receive enough support (Western Cape Government, 2020b).

4.2.7.3 *Resistant resources*

Resistant resources help individuals cope better with the influence of stressors that negatively impact their wellbeing.

- Regardless of their difficulties, the participants demonstrated resilience supported by personal, cultural, and community resources:
- Even though family structures are strained, they remain an important source of emotional support.
- Recreational, cultural, and religious events exist in the area that provide psychosocial outlets for both individuals and families. Festivals, sports, and community groups increase social cohesion, which is critical in times of stress (Department of Arts and Culture, 2020).

The participants' biographical realities are deeply embedded within the broader environmental and contextual challenges of the Breede Valley. Their caregiving experiences are shaped by gender, age, employment status, and access to services. Their resilience is supported by community assets and personal relationships. It is worth mentioning that addressing substance abuse in such a setting requires a multi-dimensional approach that acknowledges both systemic barriers and the lived experiences of caregivers

4.3 Fieldwork for Phase 1

In this section, the engagement with the field is described to provide details about entering the field and recruiting participants.

4.3.1 Identifying and recruiting participants

The process of identifying and recruiting participants for this study involved a thoughtful and strategic approach. The researcher initially established a collaboration with the rehabilitation centre in the community, which is known for its expertise in dealing with substance abuse issues. Through this partnership, the researcher gained access to potential participants who had firsthand experience with individuals suffering from addiction.

To ensure a diverse and representative sample, the researcher utilised multiple methods of participant recruitment. Firstly, referrals from the rehabilitation centre staff and counselors played a vital role in identifying individuals who were willing to share their lived experiences. Secondly, the researcher reached out to community organisations and support groups that focus on addiction and substance abuse. These connections provided access to individuals who might not be directly affiliated to the rehabilitation centre but still had relevant experiences to contribute to the study.

In addition, snowball sampling was employed, wherein existing participants were asked to recommend others who could participate in the study. This method allowed the researcher to tap into hidden populations who might not be easily accessible through conventional recruitment channels.

To ensure ethical considerations were met, all potential participants were provided with detailed information about the study's purpose, procedures, potential risks, and their rights as research participants. Informed consent was obtained from each participant before their inclusion in the study.

By employing a combination of partnerships with relevant organisations and various recruitment methods, the researcher was able to identify a diverse group of participants who offered valuable insights into their experiences with individuals suffering from addiction.

4.3.2 Entering the field

The researcher engaged in extensive communication and collaboration with the staff and management at the rehabilitation centre to gain their support and endorsement for the study. Building a positive

relationship with the staff and management was essential to ensure access to potential participants and to navigate the sensitive nature of the research topic. This included presenting the research proposal and seeking formal approval from the centre's manager.

Once entry into the rehabilitation centre was secured, the researcher immersed herself in the environment to gain an in-depth understanding of the setting and the daily experiences of individuals and families dealing with substance addiction. Spending time at the rehabilitation centre allowed the researcher to observe the dynamics, interact with staff and participants, and gain valuable insights into the challenges and nuances of the addiction recovery process.

During the fieldwork, the researcher maintained a respectful and non-intrusive presence, ensuring that the privacy and dignity of the participants were upheld. Open communication and transparency were maintained throughout, and the researcher kept the participants informed about the study's objectives and the voluntary nature of their involvement.

Overall, entering the field involved a delicate balance of building trust, respecting the participants' experiences, and adhering to ethical guidelines to conduct a meaningful and respectful study on a complex and sensitive topic.

4.4 Data collection and analysis

In this phase, data was collected to gain a better understanding of the APs lived experience as influenced by the behaviour of person(s) in their lives who are substance dependent. The quantitative data represent the demographics of the participants, and the qualitative data were collected from interviews, diaries, stakeholder mapping, and body mapping activities.

Figure 11 provides an overview of the data collection, analysis and thematic integration guided by the SoC framework.

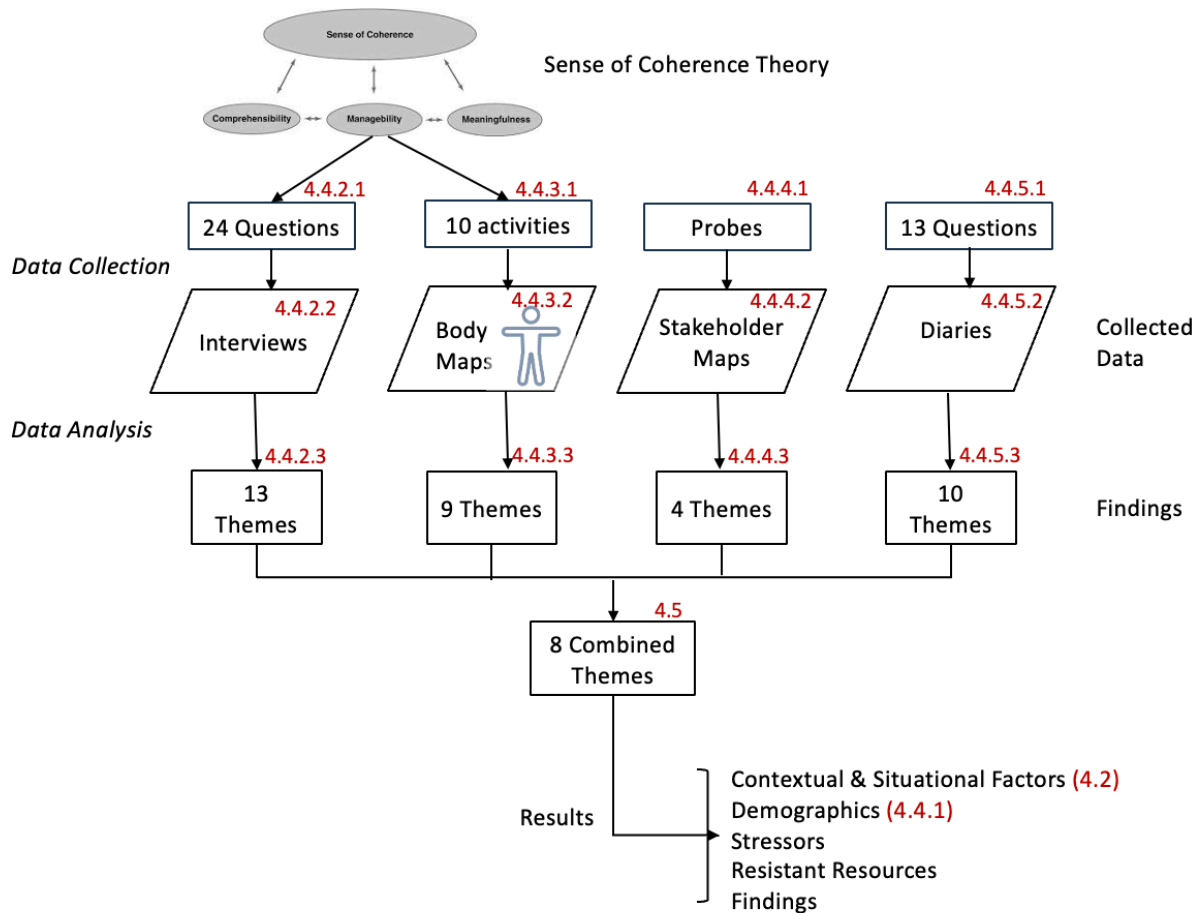


Figure 11: Overview of data collection, analysis, and thematic integration guided by the sense of coherence framework

Figure 11 gives an overview of the data collection process and indicates the number of participants targeted versus those who participated in each data collection method. The aim was to engage 12 respondents, representing 100% of the targeted sample for each tool.

Remarkably, three of the instruments exceeded the intended number of participants, with body mapping yielding 18 participants, exceeding the target by 50% (150%). This suggests that the activity may have encouraged greater participation and that additional participants were included to enrich data triangulation.

Interviews also exceeded the intended sample, with 26 participants, reflecting 217% of the intended sample. This overrepresentation of samples indicates participants' willingness to share their lived experiences.

Stakeholder Mapping met its target with 12 participants (100%).

Diaries, however, were returned by 10 participants. This represented an 83% response rate. This slightly lower return might be due to the time-intensive nature of diary keeping, participant fatigue, or a lack of motivation to make entries at their own time.

As shown in Table 7, across the instruments, 12 per instrument, 48 participants were targeted, and 66 responses were obtained, yielding a response rate 137.5%. The over-representation enhances the credibility and richness of the data while providing opportunities for triangulation across different qualitative tools.

Table 7: Summary of targeted and actual respondent participation per data collection instrument

Instrument	Respondents			
	Targeted		Obtained & Returned	
	Frequency	Percentage	Frequency	Percentage
Body mapping	12	100%	18	150%
Stakeholder mapping	12	100%	12	100%
Interviews	12	100%	26	217%
Diaries	12	100%	10	83%
Total	48	100%	66	137.5%

4.4.1 Demographics

The interviews were conducted with a total of 26 participants. Data gathered through the questionnaire were subjected to frequency counts. The subjects' responses for each question were added together to find the highest frequency of occurrence (i.e., the number of times that a particular response occurs). These responses to the questions, which are quantified, are then presented in percentage form. This analysis is presented in tabular form. This first section (Section A) presents the biographic and demographic description of the sample to provide a background against which the results were interpreted. The questions sought to gather biographical and demographic information from participants who had the opportunity to participate in the study. The participants were asked to answer questions

about themselves: their age, gender, education level, home language, marital status, and employment status. The responses to the questions are summarised below.

Age

Figure 12 depicts the age categories of participants who took part in the study. The pie chart shows that the allocation of questionnaires to various groups was in no way influenced by bias. It is a true reflection of the researcher's impartiality in the distribution of questionnaires. The age group with the most participants was the 41-50 category. (n=8; 30.7%). The mean age of the participants was 48.93.

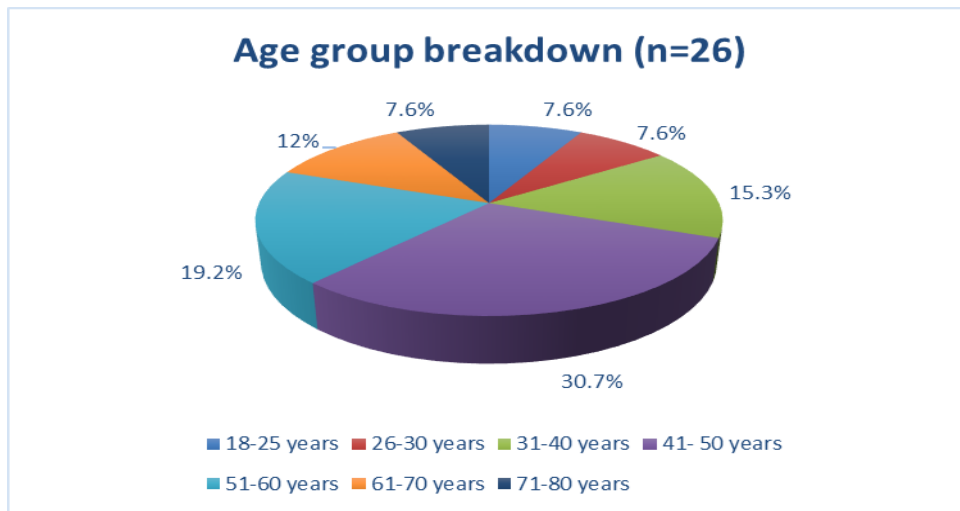


Figure 12: Age group breakdown

Gender

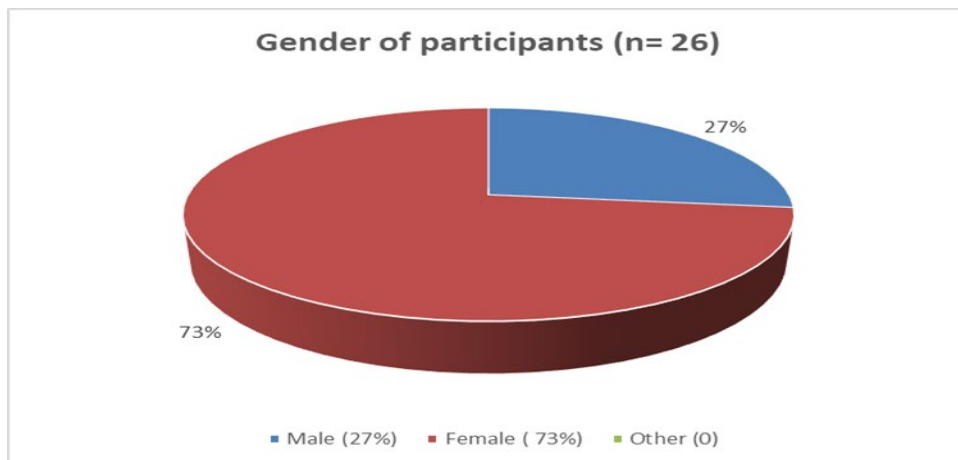


Figure 13: Gender of participants

Figure 13 shows the gender distribution of the respondents (n=26; 100.0%). The majority of the respondents (n=19; 73%) were female whereas males were less (n=7; 27%).

Home language

From the information above, only 2 participants (8.0%) had English as their home language, whereas the majority of the participants' home language was Afrikaans (n= 19; 73.0%). Five participants (19.0%) were bilingual (Afrikaans and English [Figure 14]).

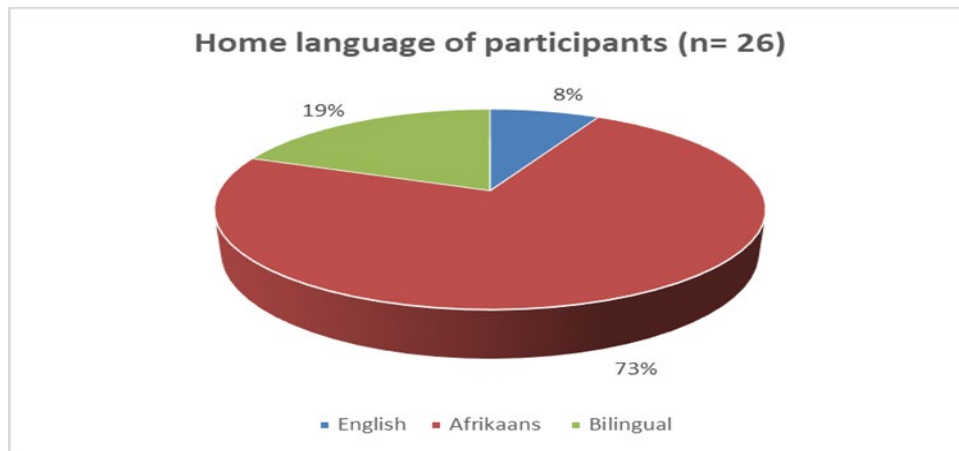


Figure 14: Home language of participants

Marital status

The majority (n=17; 65.0%) of participants were married, whereas 7 (27.0%) were single, 4 (15%) were in a relationship, and 4 (15%) were divorced at the time of completing the interview (Figure 15).

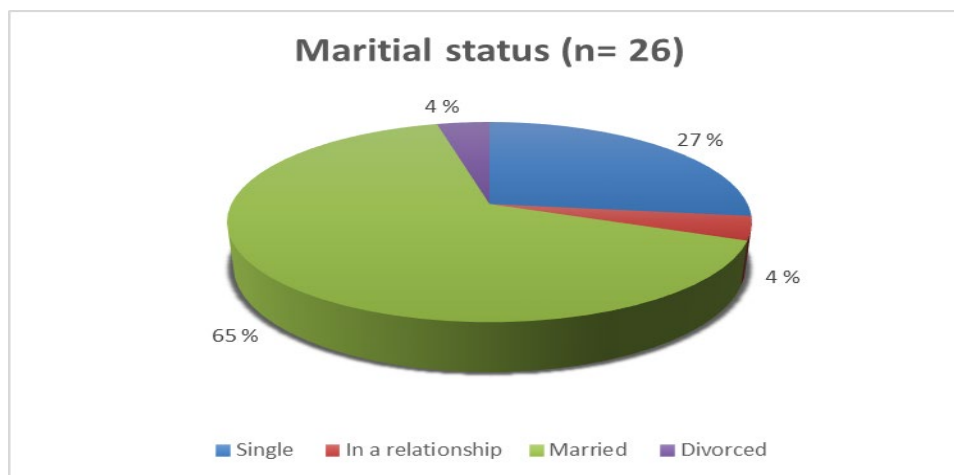
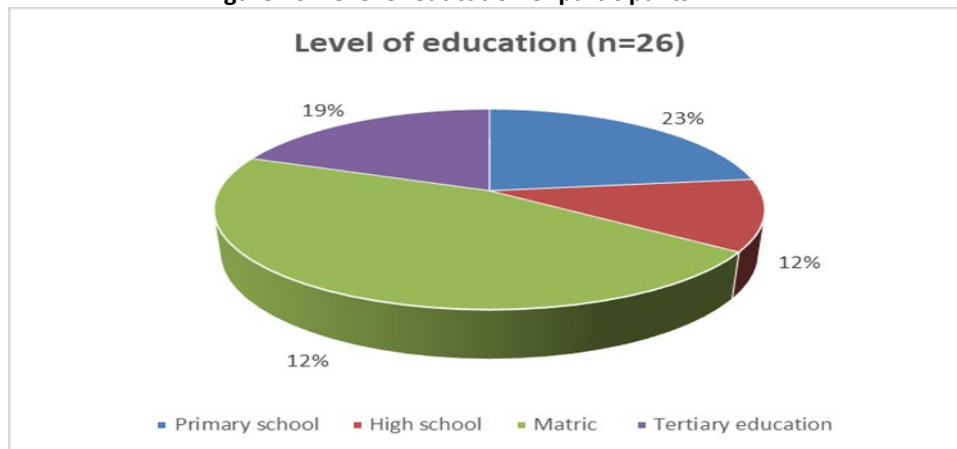


Figure 15: Marital status of participants

Highest level of education

All participants had some level of education as seen in Figure 16. A small percentage of participants (n=5; 19.0%) had tertiary education, while the majority (n=12; 46.0%) completed matric (grades 8-12).

Figure 16: Level of education of participants



Employment status

With reference to employment, four (15.0%) pensioners were included in this study, and four (15.0%) were casual workers. Casual workers refer to an individual working for less than 24 hours per month with no scheduled dates of work. Fully employed participants and unemployed participants were both 35 % of the population sample (Figure 17).

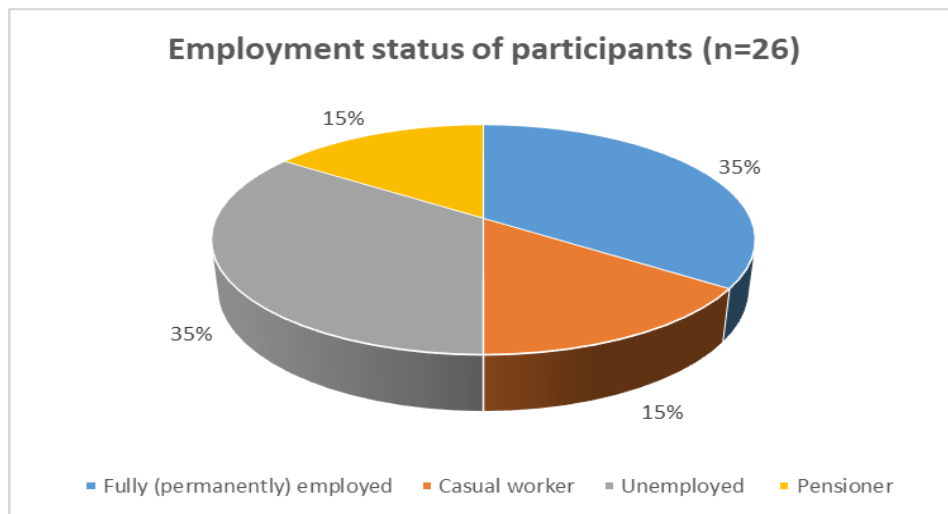


Figure 17: Employment status of participants

The biographical data presented through graphs and tables (including employment status, age, marital status, education level, home language, and gender) reflect the demographic profile of the participants involved in this study. These demographic characteristics correspond closely with the contextual background of the study area/population, as outlined in the literature and preliminary contextual analysis. For example, the majority of participants fall within the age range typical of the target population, and their educational levels align with known regional statistics, thereby supporting the representativeness of the sample.

Furthermore, the qualitative data collected through interviews, body mapping, stakeholder mapping, and diaries complements the quantitative demographic information by providing deeper insights into the lived experiences, perceptions, and social dynamics of participants within the study context. These qualitative methods enabled the exploration of nuanced themes that are grounded in the participants' real-life situations, thus enriching the contextual understanding of the study and validating the relevance of the demographic data.

Overall, the combined use of demographic (biographical) data and diverse qualitative data collection methods strengthens the validity of the study findings and demonstrates strong correspondence with the contextual realities of the target population.

Demographic profile of the typical participant

Within this study, the typical AP is a middle-aged, Afrikaans-speaking female, residing in an underserved area within the Breede Valley Municipality. She is continuously exposed to substance dependency within the household, which involves either a child, sibling or partner with a tik addiction, and simultaneously facing economic hardship, emotional stress, and limited support. She also struggles to access adequate healthcare and rehabilitation services. In addition, regardless of being married, family dynamics are poor. Her lived experience reflects the underemphasised burden carried by many women in resource-poor, addiction-affected communities.

4.4.2 Interviews

The main research question focuses on understanding the experiences of the APs in an underserved community. The interview questions (IQs), presented in the form of an interview questionnaire, are linked to the research sub-questions as well as to the associated key concepts derived from the literature. In the questionnaire section B addressed Comprehensibility (items 7-12), Manageability (items 13-15), and Meaningfulness (items 16-24) based on the SoC theory.

4.4.2.1 Interview data collection instrument

The interview data collection instrument (Appendix 5) used in this study was carefully designed to gather in-depth insights from participants regarding their experiences, perceptions, and understanding of the research topic. The instrument consisted of a semi-structured interview guide, which included open-ended questions that allowed participants to express their views in their own words. The guide was developed based on key themes identified from the literature and the research objectives, ensuring that all relevant topics were covered while still providing flexibility for participants to share additional insights. To ensure reliability and validity, the questions were pre-tested with a small group of participants before the full data collection process. The interviews were conducted in a comfortable and confidential environment, with each session being audio-recorded (with consent) for accurate transcription and analysis. This approach enabled the collection of rich, qualitative data that provided a deeper understanding of the participants' perspectives and experiences.

The purpose of the open ended questionnaire was to explore the APs' lived experiences in relation to the domains of the SoC theory, specifically focusing on comprehensibility, manageability, and meaningfulness (see Table 8). These interviews, therefore, aimed to delve into how the APs make sense of their experiences (comprehensibility), how they manage and cope with life's challenges (manageability), and how they find purpose and significance in their lives (meaningfulness). By examining these domains, the interviews sought to uncover the factors influencing their sense of coherence and overall well-being.

4.4.2.2 Interviews data

The interview questions created for this study are shown in Table 8 and are mapped to the three dimensions of Antonovsky's Sense of Coherence (SoC) theory: meaningfulness, manageability, and comprehension. These thoughtfully designed questions probed participants' personal narratives, coping mechanisms, support networks, and views of purpose and balance in life in order to provide a comprehensive insight of their lived experiences. In addition to showing how each question aligns with its corresponding SoC domain, the table also explains why it was included, demonstrating that the data gathering process was methodologically sound and conceptually supported. The researcher was able to maintain consistency and clarity throughout the interviews while gaining a deeper understanding of the psychosocial environment of APs.

Table 8 outlines the interview questions developed for this study and links them to the three core domains of Antonovsky's Sense of Coherence (SoC) theory: comprehensibility, manageability, and meaningfulness. Each question was carefully designed to explore participants' lived experiences, coping strategies, support systems, and sense of purpose. The table also provides a brief motivation for each question, explaining its relevance and how it contributes to understanding participants' perspectives and overall sense of coherence.

Table 8: Presentation of interview questions linked to the Sense of Coherence Theory

Item	Question	Domain	Motivation for asking this question
7	How does the environment influence your lived experience?	Comprehensibility	This question delves into the impact of surroundings on personal experiences. It's important to provide context by first discussing general aspects of the respondent's environment before exploring specific influences.
8	Tell me about yourself. What is your family and family life like?	Comprehensibility	This question serves as an icebreaker, allowing the respondent to provide an overview of their identity, interests, and background. Starting with general information and gradually moving towards more specific details can enhance comprehensibility and invites the respondent to describe their family dynamics and upbringing. To enhance coherence, it's beneficial to follow a chronological or thematic order, starting with an overview of the family structure before delving into specific aspects of family life.
9	What type of area/neighbourhood(s) did you grow up in and where do you live now?	Comprehensibility	This question explores the respondent's residential environment. Structuring the question by first discussing the respondent's childhood neighborhood followed by their current living situation can help maintain coherence.
10	How would you describe your spiritual beliefs?	Comprehensibility	This question delves into the respondent's religious or philosophical views. To ensure comprehensibility, it's helpful to begin with an explanation of the respondent's overarching beliefs before delving into specific aspects or experiences that shape their spirituality.
11	Please explain your relationship with the person suffering from addiction and the story of the person with the addiction.	Comprehensibility	This question addresses a specific relationship and its challenges. Maintaining coherence involves providing background information on the relationship before delving into the narrative of the individual's addiction journey, ensuring a clear understanding of the context and dynamics involved.
12	How well do you adjust to new situations?	Manageability	This question assesses the respondent's adaptability and their strategies for managing new or changing circumstances.
13	Please share your coping mechanisms used.	Manageability	This question explores the respondent's methods for dealing with stress and challenges. Understanding their coping mechanisms can provide insight into their resilience and mental health strategies.
14	Please explain the nature of support that you have access to, if any.	Manageability	This question aims to identify the sources and types of support available to the respondent, highlighting the role of external resources in their ability to manage life situations.
15	How have you been feeling in general recently?	Meaningfulness	This question gauges the respondent's current emotional state, providing a snapshot of their overall well-being.

16	How meaningful is your life?	Meaningfulness	This question assesses the respondent's sense of purpose and fulfillment in life, exploring the factors that contribute to their sense of meaning.
17	How do you feel about your life and lived experiences?	Meaningfulness	This question encourages the respondent to reflect on their overall life satisfaction and the significance of their experiences.
18	Are you self-fulfilled in all aspects of your life?	Meaningfulness	This question explores the respondent's sense of personal achievement and contentment across different areas of their life.
19	Is there one act in your life that you're really proud of?	Meaningfulness	This question seeks to identify significant achievements or moments of pride, highlighting the respondent's personal milestones and sources of self-worth.
20	Do you feel like you need to control situations?	Manageability	This question examines the respondent's need for control and how it impacts their approach to managing life events.
21	How well do you express your emotions?	Manageability	This question assesses the respondent's emotional expression and communication skills, which are crucial for effective coping and support-seeking.
22	When you think about your life, would you say that it is balanced?	Meaningfulness	This question evaluates the respondent's perception of balance and harmony in their life, exploring how they manage various life domains.
23	If you were to give yourself advice on problems (if any) in your life, what would it be and why?	Meaningfulness	This question encourages self-reflection and problem-solving, allowing the respondent to articulate their insights and potential strategies for addressing challenges.

Figure 18 below presents the interview sheet of Participant 1, illustrating detailed responses to a background questionnaire and an in-depth interview.

Table 9: An excerpt of the interview data set for Question 8

A	B	C	D	L	O
	Response 1	Response 2	Response 3	Response 1 1	Response 14
SECTION 8: LIVED EXPERIENCES					
COMPREHENSIBILITY					
<p>8. Tell me about yourself. What is your family and family life like? What type of area/neighbourhood(s) did you grow up in and where do you live now? How would you describe your spiritual beliefs?</p>	<p>Ek en my dogter het destyds saamgedrink. Ek het haar abuse verbyly en emotionally. My dogter het vroeg ryp geraak en was 15 jaar oud toe sy swanger geword het. Sy het haar selfrespek verloor. Sy het nooit 'n jongmens lewe gehad nie. My kinders het almal dieselfde negatiewe siktus gevolg in hul jongmens lewe. My dogter se lewe is nie rooskleurig nie. Ek moet vir jou se dat ek nie gedink het my man gaan my vergewe nie. Nadelig weet ek was ontrou en hy het my weer 'n kans gegee. Ek het nie dit verdien nie. My oudste seun het die laptop gesteel van sy onderwyser jare terug. Hy was geveng op die skool. My seun is baie manipulerend. Hy blaam my en my man vir hom wie nou tik. As daar probleme in die familie is, sal ons mekaar bystaan. Om eerlik te wees, my dogter maak nie juis op tenoor my nie. Sy is eensydig. Haar man het haar sodomise. My dogter voel unworthy. Ek was gerape toe ek besope was gereeld deur mans. Ek sit myself baie in my dogter se skoen. Sy wou verder leer maar het ingegegee toe dit hv rlie studies kom. My man het haar</p>	<p>Ek het een seun, hy is verslaafd aan dwelms en een dogter. Hulle albei woon saam met my asook die dogter se suntuje. Ek is 'n baie stil mens- ek hou nie van bakkele en skel nie. Ek het hier in Roodewal grootgeword en maar hier getrou. Ek loop nie meer kerk soos gewoonlik nie. Ek is raadop</p>	<p>Ek het nog ouers, en my man het ook sy ouers. Ons is baie geheg aan mekaar en kom goed oor die weg. Ek praat nie meer oor my probleme by hulle nie want ek het nie meer lus vir klare nie en ek wil nie my seun verneder nie. Ek loop gereeld kerk. As ek in die kerk is dan voel ek meer heel en asof daar hoop is.</p>	<p>Ek en my suster is baie close. Sy woon in Hartzenberg Straat. Ek en my broer kom orite oor die weg met mekaar. K het haar pa se familie baie laat in haar lewe ontmoet. Sy was al op vakansie saam met hulle. Ek het nog 'n broer in JohnsonsPark, maar ons kom nie so goed oor die weg met mekaar nie. Tydens die dwelm storie was ek en my suster meer close as met my broers.</p>	<p>I am a housewife, I am married. My husband and I are both housewives. We have two children. A girl and a boy. We have one grandchild. The girl is 11. My husband works from home. Our granddaughter lives with us and is a student and has just year at UWC. She is studying LLB. My husband stays in Cape Town and we stay in Worcester. We live in a middle class neighbourhood. I grew up in a middle class neighbourhood. There were mostly aged married people living in the neighbourhood. Most of us as children knew each other and we attended the same high school. My father had high school. I still live in the same town, but in an other middle class neighbourhood. My spiritual beliefs were mainly influenced by my parents. My father was a member of the Congregational Church. I got married to a Roman Catholic man and I converted myself to his religion as when the two children were born on the morning they are now full catholic as prescribed and required. By the laws of the catholic church we have all undergone the rituals of the church from baptism to confirmation.</p>

The researcher developed the questions based on the SoC framework on how individuals perceive life and its challenges according to three key components: Comprehensibility, Manageability, and Meaningfulness. Each set of items was categorised to reflect how these aspects of the SoC scale help in assessing an individual's sense of coherence.

4.4.2.3 Interview analysis

The coding of interviews followed a structured and thematic analysis approach. Open-ended responses from participants were grouped into specific codes and categories to identify recurring themes. For each question, responses were first organised based on their meaning and context. Codes, such as "contributing factor," "negative environment", and "social issues", were assigned to highlight the core aspects of the participants' statements. These codes were then categorised under broader themes like "problems in environment", "relationship with others", and "weaknesses, shortcomings, and mistakes" to provide a clearer understanding of the data.

Categories, such as "challenges in environment", "self-deprecating", and "relationships", further refined the analysis, allowing for a nuanced interpretation of the participants' lived experiences. For instance, responses about environmental issues, such as gang violence or poor sanitation, were grouped under "problems in environment" and linked to sub-themes like "challenges in environment" or "service delivery." Similarly, "personal reflections", like self-forgiveness and feelings of isolation, were coded to highlight emotional and relational themes.

This systematic coding process enabled the researcher to identify patterns, compare data across participants, and connect individual experiences to broader social or environmental issues. The colour-coding further streamlined the analysis, visually distinguishing themes and categories for clarity. This method reflects a thorough and organised qualitative analysis that captures the depth and complexity of participants' narratives.

An excerpt of the coding process is presented in Table 10, with the participant code in the first column. Each answer was separated into open-ended responses (column 2), and an initial code was assigned to represent the open-ended response (column 3). Once all the open-ended responses had an allocated code, the codes were grouped into 51 categories based on similar codes (column 4). Finally, 13 themes were derived with similar categories further grouped (column 5).

Table 10: Excerpt of the coding of interview question 1

PC	How does the environment influence your lived experience?	Code	Category	Subtheme
	Open ended response			
1	This adds to the problem	Contributing factor	Problems in environment	challenges in environment
	not a positive environment	negative environment	Problems in environment	challenges in environment
	gangs and drugs	social issues	Problems in environment	challenges in environment
2	crime and robberies and gang violence	social issues	Problems in environment	challenges in environment
	Drugs are sold in broad daylight without shame	social issues	Problems in environment	challenges in environment
	young children are drinking and destroying their lives all around us	youth substance abuse	Problems in environment	challenges in environment
3	area that is alright	satisfied	prefaced by feelings	disposition

Next, the themes and associated categories are presented and analysed in Table 11.

Table 11: Interview themes derived from the interviews were as follows

Theme	Category
1. Challenges in the environment	Problems in the environment Poor experience Environmental hardships
2. Disposition	Prefaced by feelings Intent Intensity
3. Service delivery	Basic sanitary services Governmental involvement
4. Social acceptance and relationships	Social acceptance Relationships with others Family matters Personal relationships Relationships with the addict
5. Personal identity and self-reflection	Self-depreciating Self-composed Self-awareness
6. Spiritual and religious beliefs	Religious Spiritual Not religious Anti-spiritual/atheist
7. Adaptability to change and new situations	Imperceptive Reflecting attitude Maturity Seclusion
8. Coping mechanisms	Seeking a meaningful relationship with something bigger than oneself Own importance and self-love Considerate coping Information technology Spiritually inclined coping Positive coping Negative coping
9. Social support	Online services Social support Church support Counselling
10. Emotional wellbeing and stability	Primary emotions Secondary emotions Emotional instability
11. Sense of meaning and purpose	Sense of purpose Uncertainty
12. Reflection on life and experiences	Positive reflections Negative reflections Imperturbable feelings

	Accomplishments
13. Personal fulfillment and control	Yes (self-fulfillment) No (self-fulfillment) Not yet (self-fulfillment) Yes (control over situations) No (control over situations) Sometimes (control over situations) Not anymore (control over situations)

Themes and subthemes with analysis and supporting quotations from the interviews are displayed in Table 12.

Table 12: Themes and Subthemes with analysis and supporting quotations from the interviews

Theme 1	Challenges in the environment	
Category	Analysis	Supporting quotations
Problems in the environment	Under Theme 1, <i>Challenges in the Environment</i> , the subtheme <i>Problems in the Environment</i> highlights participants' lived experiences of an unsafe, negative environment marked by gangs, drugs, and persistent community challenges.	<ul style="list-style-type: none"> • <i>'This adds to the problem. It is not a positive environment in terms of gangs and drugs.'</i>(p1) • <i>'The area is full of crime and robberies and gang violence.....drugs are sold in broad daylight without shame.'</i>(p2) • <i>'...this environment is the worst ever! Shootings, drugs, raping. It makes me feel like I live in a horror movie!'</i>(p5) • <i>'...it's a place where there are too many wrong things happening. Things like murders and shooting. People walking around with guns and knives. It is not healthy living here.'</i>(p8)
	Participants raised concerns about the early onset of substance abuse among youth, highlighting a growing and troubling trend that needs urgent attention.	<ul style="list-style-type: none"> • <i>'...young children are drinking and destroying their lives all around us.'</i>(p2)
	Participants highlighted the widespread and easy access to drugs, stressing the urgent need for targeted interventions to address their distribution and use.	<ul style="list-style-type: none"> • <i>'...not conducive to anybody's mental wellbeing.'</i>(p12) • <i>'...not good for our wellbeing...'</i>(p15) • <i>'...increases the community's risk of developing mental health problems.'</i>(p16)
Poor experience	Participants consistently reported poor living conditions, emphasising the ongoing challenges they face and the need for comprehensive efforts to improve their quality of life.	<ul style="list-style-type: none"> • <i>'...experience here has not been good at all.'</i>(p1) • <i>'This is terrible and unsafe.'</i>(p4) • <i>'...I actually hate this place.'</i>(p4)
Environmental hardships	Subtheme 4, <i>Environmental Hardships</i> , highlights how poor living conditions, limited infrastructure, and lack of resources affect participants' well-being. It offers insight into their daily struggles, coping strategies, and resilience in navigating these adverse conditions.	<ul style="list-style-type: none"> • <i>'...This environment is the worst ever...'</i>(p5)
Finding	The qualitative data vividly reflects the challenging environment described in the demographic context, highlighting issues like pervasive gang activity, drug abuse, and poor living conditions. These firsthand accounts deepen the understanding of how the	

	participants' socio-economic and demographic backgrounds intersect with the adverse environmental realities they face. Theme 1 examines harsh environmental conditions, while Theme 2 explores how these external stressors are internalised, shaping participants' emotional and psychological responses.	
Theme 2	Disposition	
Category	Analysis	Supporting quotations
Prefaced by feelings	This subtheme explores the emotional impact of relocating from dangerous environments to urban settings, with participants expressing deep satisfaction. It highlights how such transitions evoke positive emotions and improve overall well-being.	<ul style="list-style-type: none"> 'I now live on my own in the northern suburbs in Cape Town. It's peaceful here.'(p17)
Intent	Some participants expressed a strong desire to migrate due to deep dissatisfaction with their environment, reflecting urgent concerns about safety and quality of life. This highlights the need for targeted interventions to improve local conditions and foster hope for a better future.	<ul style="list-style-type: none"> 'My parents thought that if we could move from where we lived, she would change her habits.'(p16)
Intensity	Some participants showed heightened alertness due to their challenging environments, reflecting the emotional and psychological toll these conditions take. This highlights the urgent need to improve safety and promote well-being.	<ul style="list-style-type: none"> '... I am constantly aware of my surroundings and fearful of people approaching..... I only reverse my car into the garage so that I can see who is approaching my car at all times. My children don't play outside because I am trying to limit contact.' (p17)
Finding	Participants' emotional responses reflect a strong link between their environment and psychological well-being. While some experienced relief and satisfaction after relocating to safer areas, others expressed a deep desire to escape unsafe conditions or reported heightened vigilance, revealing the lasting emotional strain of living in high-risk environments. Theme 3 shifts from personal responses to systemic influences, examining how services and government support affect participants' ability to cope.	
Theme 3	Service delivery	
Category	Analysis	Supporting quotations
Basic sanitary services	Participant 3 highlighted poor cleanliness and inadequate municipal sanitation services, stressing the need for improved infrastructure to support a healthier living environment.	<ul style="list-style-type: none"> 'The place is sometimes dirty....' and 'We do not have good sanitary services from the municipality....'.

Governmental involvement	Participants feel the government neglects pressing social issues, expressing frustration over insufficient action. This highlights the need for greater government responsiveness to address community challenges effectively.	<ul style="list-style-type: none"> • <i>'...government is selfish because they don't tend to the crime and drug related matters in our community.'</i>(p4)
Finding	The findings reveal that participants experience inadequate basic sanitary services and perceive a lack of effective government involvement in addressing critical social issues, highlighting the urgent need for improved infrastructure and responsive governance. Theme 4 focuses on social relationships, illustrating how acceptance, stigma, and family dynamics shape wellbeing and coping.	
Theme 4	Social acceptance and relationships	
Category	Analysis	Supporting quotations
Social acceptance	Social acceptance is vital to the experiences of APs, who often feel marginalised due to addiction stigma. When met with empathy and understanding, they experience greater emotional support, improved coping, and a stronger sense of resilience.	<ul style="list-style-type: none"> • <i>'It feels like being punished twice. First the drugs punish you and then the community because they look down on you because they judge you. I think it makes you feel isolated and you don't really want to reach out for help'. (p1)</i>
Relationships with others	Theme 4's 'Relationships with Others' highlights complex dynamics like forgiveness, violation, and detachment experienced by participants affected by addiction. While some struggle with broken trust and emotional separation as coping mechanisms, others emphasise strong family bonds that provide love, support, and resilience amid challenges.	<ul style="list-style-type: none"> • <i>'...we are not that attached to each other because I tell them if their lives are not in order. Now they avoid me.'</i>(p6) • <i>'Our family life was peaceful until he started with this addiction.'</i>(p8) • <i>'My family life is disrupted because of my daughter who is on drugs.'</i>(p9) • <i>My daughter and I were drinking together... I abused her verbally and emotionally... my daughter doesn't really open up to me.'</i> (p1) • <i>'We are very close to each other and get along well.'</i>(p3) • <i>'My family and family life are very simple and we love each other.'</i>(p3) • <i>'My brother and I get along really well.'</i>(p3) • <i>'I love my family.'</i>(p12) • <i>'I am very close to my family. We enjoy weekends together and my parents and I often party together.'</i>(p16)

		<ul style="list-style-type: none"> • <i>'I grew up with a wonderful and loving family who always put God first in any aspect of their lives.'</i>(p18) • <i>'My father took good care of us as we grew up and taught us many valuable life lessons...'</i>(p11) • <i>'...we are a very close family...'</i> (p20)
Family matters	This subtheme explored the complex dynamics of family relationships, including roles, conflicts, and support. It highlights how family connections shape participants' experiences, well-being, and decisions, emphasizing the importance of familial support.	<ul style="list-style-type: none"> • <i>'...I live with my mum, my dad and my youngest sister.'</i>(p4) • <i>'We live in my parent's old house. They passed away.'</i>(p7) • <i>'...most children knew each other as attended the same school...'</i>(p17)
Personal relationships	This subtheme explores participants' personal and emotional stories about their family life, revealing the complexities and connections that shape their identity and well-being. It highlights the powerful role family relationships play in their sense of belonging and overall experience.	<ul style="list-style-type: none"> • <i>'I am currently married to a man who grew up in the same community.'</i>(p17) • <i>'...and look, my situation is very complicated now because I live with the family of my ex-wife. And this peoples' son is addicted to crystal meth.'</i>(p19)
Relationships with the addict	Relationships with addicted loved ones are complex, involving love, frustration, guilt, and responsibility. Participants struggle to balance support with self-care, highlighting the need for support services that help manage these emotional challenges.	<ul style="list-style-type: none"> • <i>"Living with someone who is on drugs sometimes feels like you're walking on eggs. It is exhausting and makes you so tired. It's hard to draw the line sometimes. You struggle constantly because you take care of them and give love but at the same time you also want to take care of yourself.'</i>(p14)
Finding	The finding reveals that social acceptance and family relationships profoundly shape APs' experiences of APs. Stigma leads to isolation, while empathy fosters resilience and coping. Relationships with addicted loved ones are emotionally complex, marked by love, frustration, and guilt, requiring a careful balance between support and self-care. Strong family bonds provide crucial emotional support and resilience, underscoring the need for targeted interventions that address these relational dynamics to improve well-being. Theme 5 turns inward, examining how social relationships shape participants' identity, self-reflection, and emotional regulation.	

Theme 5		
Personal identity and self-reflection		
Category	Analysis	Supporting quotations
Self-depreciating	Self-awareness is key to how participants understand and navigate their experiences, reflecting on personal hardships and family roles.	<ul style="list-style-type: none"> • <i>'I've become more aware of my own needs and what I am able to do. It's important to take care of myself, too, otherwise, I won't be able to help anyone. I can't pour from an empty cup' (p15)</i> • <i>'Understanding my emotions and reactions has been important to me. It helps me manage the stress better and approach my family member with more compassion.'</i>(p9)
Self-composed	In contrast, some participants showed a composed attitude, reflecting resilience and calmness despite family addiction challenges.	<ul style="list-style-type: none"> • <i>'Despite everything, I've learned to stay calm and take things one step at a time. I know my strengths, and I focus on them.'</i>(p7) • <i>'I've made a lot of progress. It's not easy, but I remind myself of how far I've come rather than how far I still have to go.'</i>(p18)
Self-awareness	Self-awareness played a key role in how participants reflected on their hardships and family roles, shaping their understanding of their experiences.	<ul style="list-style-type: none"> • <i>'I've become more aware of my own needs and what I am able to do. It's important to take care of myself, too, otherwise, I won't be able to help anyone. I can't pour from an empty cup' (p15)</i> • <i>'Understanding my emotions and reactions has been important to me. It helps me manage the stress better and approach my family member with more compassion.'</i>(p9)
Finding	The findings indicate that self-awareness is crucial for participants in understanding and managing their personal hardships and family roles. While some exhibit self-deprecating reflections on their struggles, others demonstrate resilience and calmness, highlighting varied ways they cope and grow amidst family addiction challenges. Theme 6 explores how spiritual and religious beliefs support meaning-making, resilience, and emotional coping.	
Theme 6		
Spiritual and religious beliefs		
Category	Analysis	Supporting quotations
Religious	Religious beliefs provided many participants with strength, guidance, and community support.	<ul style="list-style-type: none"> • <i>'I grew up with a wonderful and loving family who always put God first in any aspect of their lives.'</i>(p18)
Spiritual	Participant 21 identified as spiritual, focusing on a personal connection with a higher power and nurturing their spiritual well-being.	<ul style="list-style-type: none"> • <i>'I don't necessarily follow a specific religion, but I believe in a higher power. Meditation and mindfulness have been really helpful for me.'</i> (p21)

Not religious	A few participants identified as non-religious but found alternative ways to cope and seek support.	<ul style="list-style-type: none"> • <i>'I respect other people's beliefs, but religion has never been a part of my life. I find support through friends and hobbies...For me, it's about finding meaning in everyday actions and relationships rather than through religious practices.'</i>(p21)
Anti-spiritual/atheist	Some participants identified as atheist or anti-spiritual, rejecting belief in a higher power or spiritual realm.	<ul style="list-style-type: none"> • <i>'I doubt that there is a God. I cannot really believe that He exists....and if he exists, then he doesn't love me and he is unfair. I consider myself an atheist.'</i> (p22) • <i>'I do not believe in God if that is what you are asking.'</i> (p19)
Finding	Theme 6 reveals diverse spiritual and religious orientations among participants. While many drew strength, guidance, and community support from traditional religious beliefs, others identified as spiritual, seeking personal connections with a higher power outside formal religion. Some participants were non-religious but found alternative coping methods, and a few explicitly rejected spirituality or belief in a higher power. This diversity highlights varied sources of meaning and resilience within the group. Theme 7 examines how belief systems shape participants' practical responses to life changes, including adaptability, maturity, and withdrawal.	
Theme 7	Adaptability to change and new situations	
Category	Analysis	Supporting quotations
Imperceptive	Some participants showed difficulty adapting to change, struggling to understand its impact on their lives.	<ul style="list-style-type: none"> • <i>'I don't always know which way.'</i>(p2) • <i>'I adjust poorly because I think I am fragile and I can't think straight anymore.'</i>(p12) • <i>'No, I do not adjust well.'</i>(p15)
Reflecting attitude	Other participants adopted a reflective attitude, helping them better understand and adapt to changes in their lives.	<ul style="list-style-type: none"> • <i>'Sometimes I try to take a step back and reflect on what is happening when things change and it helps me make sense of the situation and figure out how to move forward.'</i> (p7) • <i>'Thinking about past experiences and how I handled them gives me insight into dealing with new situations. It's a way of learning and growing.'</i>(p22)

Maturity	Maturity helped some participants accept change, drawing on life experience and coping skills to face challenges with confidence.	<ul style="list-style-type: none"> • <i>'I've been through so many things in my life...those experiences have taught me how to handle things thrown my way. I feel more mature and capable of dealing with whatever comes my way.'</i> (p11) • <i>'With age and the experience (of having a daughter who suffered from addiction), I've learned to stay calm and approach new situations with a mature mindset. It's about staying grounded and not letting things overwhelm you.'</i>(p24)
Seclusion	Some participants coped with change through seclusion, using isolation to privately process their emotions and thoughts.	<ul style="list-style-type: none"> • <i>'I try to be alone and isolate myself.'</i>(p4) • <i>'I switch completely off...'</i>(p13) • <i>'I become very quiet and don't talk to anybody. I remove myself from everything and everyone.'</i>(p20)
Finding	Participants responded to change in diverse ways. While some struggled to understand and adapt (imperceptive), others adopted a reflective attitude that supported adjustment. Maturity, shaped by life experience and coping skills, enhanced adaptability for some, while others relied on seclusion to privately process and manage their emotions. These varied responses highlight the complexity of navigating change and the importance of individualised coping mechanisms. Theme 8 explores the coping mechanisms participants use to manage stress, uncertainty, and emotional strain.	
Theme 8	Coping mechanisms	
Category	Analysis	Supporting quotations
Seeking a meaningful relationship with something bigger than oneself	Several participants drew strength from a higher power or greater cause, which gave purpose and helped them make sense of their challenges.	<ul style="list-style-type: none"> • <i>'Believing in something bigger than myself helps me make sense of everything. It gives me hope and a reason to keep going.'</i> (p3) • <i>'My faith in a higher power guides me through these tough times. It supports and motivates me...'</i>(p20)
Own importance and self-love	Some participants coped by emphasising self-love and self-worth, focusing on building self-esteem and nurturing themselves to manage stress.	<ul style="list-style-type: none"> • <i>'I'm putting myself first and loving myself now ... for my well-being.'</i> (p12) • <i>'Understanding my self-worth and taking care of myself has made a huge difference in how I handle challenges.'</i>(p19)

Considerate coping	Considerate coping involved being mindful of their actions' impact on others, helping participants maintain relationships and navigate challenges more effectively.	<ul style="list-style-type: none"> • <i>'I try to be considerate of others while I deal with my problems... just to maintain harmony you know.'</i> (p12) • <i>'Being mindful of how my actions impact those around me makes it easier to find support and understanding when I need it from others.'</i>(p25)
Information technology	Some participants used information technology - such as online resources, support groups, and apps - to manage stress and stay connected.	<ul style="list-style-type: none"> • <i>'Technology has been a lifeline. I use apps to track my progress and connect with support groups online. The internet provides so much information and support. It's been invaluable in helping me cope with my situation.'</i>(p13) • <i>'I just read all the positive quotes on Facebook - it helps me.'</i>(p1)
Spiritually inclined coping	Spiritually inclined participants often used religious practices, meditation, and spiritual activities to cope and find peace.	<ul style="list-style-type: none"> • <i>'Prayer is my go-to coping mechanisms because it calms me.'</i> (p1) • <i>'My spiritual practices like sitting on my stoep alone with my thoughts, watching the trees and listening to the birds and the people walking by give me a sense of peace and perspective. It's how I ground myself.'</i> (p21)
Positive coping	Positive coping included activities such as exercise, hobbies, and socializing, which boosted wellbeing and resilience.	<ul style="list-style-type: none"> • <i>'I also go to friends and sometimes spend weekends there...but I am always worried when I go because my things might get stolen when I get back home or when I start to look for it.'</i>(p5) • <i>'I cope by spending time with my boyfriend and calling my good friend for some laughs. I also enjoy spending time with other family members.'</i>(p16)
Negative coping	Some participants admitted to using negative coping strategies such as substance use, isolation, or denial, which worsened their challenges.	<ul style="list-style-type: none"> • <i>'When things get tough, I sometimes isolate myself.'</i> (p5) • <i>'I've turned to alcohol to cope, but I know it's not a healthy solution.'</i>(p20)
Finding	Participants used a variety of coping strategies to manage stress and challenges. Many found strength and purpose by connecting with a higher power or cause. Others emphasised self-love and self-worth as crucial to managing their well-being. Considerate coping helped maintain relationships by being mindful of others' feelings. Information technology provided access to resources and social support online. Spiritually inclined participants used religious and spiritual practices to find peace. Positive coping involved activities such as exercise, hobbies, and socialising to build resilience. However, some participants also resorted to negative coping methods such as substance use, isolation, or denial, which often exacerbated their difficulties.	

	Theme 9 expands the focus to external support and shows how social networks and services complement personal coping strategies.	
Theme 9	Social support	
Category	Analysis	Supporting quotations
Online services	Many participants highlighted online services such as virtual support groups, mental health apps, and informational websites as key sources of support and resources.	<ul style="list-style-type: none"> • <i>'The only other support I have is social media, which makes me forget about the problem of my sister.'</i>(p4) • <i>'I do have access to the MobieG App. And it is a great app. I wish I knew about this sooner.'</i>(p16) • <i>'My niece gave me a smartphone too so I can communicate with buddies and be on social media and be clued up on what is going on around the world.'</i>(p19) • <i>'I have a phone which I use to do research on topics I see in the media. I have access to help if I do need anything. This whole thing with my brother was very traumatic for me, I ended up being burned out from work and had to be admitted to hospital...'</i>(p22)
Social support	Social support from family, friends, and community was vital, with participants stressing the need for a reliable network during tough times.	<ul style="list-style-type: none"> • <i>'What helps me through now is that I can talk to you, Chantal. Thanks for the data and for checking in with me to see how it's going.'</i>(p1) • <i>'I don't speak to just anyone but those close to me who are trustworthy.'</i>(p17) • <i>'I also have to surround myself with people I can talk things through with.'</i>(p17) • <i>'I have support from my husband ...not always, my daughter and a member of the church.'</i>(p3) • <i>'My parents and friends support me when I want or need to talk to somebody.'</i>(p5) • <i>'My family always offer support by saying I could talk to them, or even a therapist.'</i>(p13)
Church support	For some, church support offered community, spiritual comfort, and practical help.	<ul style="list-style-type: none"> • <i>'My church is like my second family. They provide not only spiritual guidance but also practical help when I need it.'</i>(p7) • <i>'The church support groups have been essential. They offer a safe space to share and receive encouragement.'</i>(p22)
Counselling	Professional counselling was a key support for participants.	<ul style="list-style-type: none"> • <i>'...even pastors, psychologists and psychiatrists.'</i>(p2) • <i>'I have access to a psychologist.'</i>(p14)
Finding	Participants identified social support as vital in coping with challenges. Online services such as virtual support groups, mental health apps, and informational websites provided accessible resources and connections. Family, friends, and community	

	formed reliable support networks offering emotional and practical help. For some, church communities offered spiritual comfort and tangible assistance. Professional counselling, including psychologists and pastors, was also an important source of support. Theme 10 examines participants' emotional wellbeing, showing how it is shaped by support and ongoing challenges.	
Theme 10	Emotional wellbeing and stability	
Category	Analysis	Supporting quotations
Primary emotions	Participants often described primary emotions like happiness, sadness, anger, and fear as immediate reactions to daily events.	<ul style="list-style-type: none"> • <i>'I need to stay positive...'(p1)</i> • <i>'I have been feeling good lately because I stay busy with handy man jobs for friends and family.'</i>(p19) • <i>'I feel good.'</i>(p25) • <i>'I am happy.'</i>(p16) • <i>'I feel down a lot'</i>(p15) • <i>'...insecurities...'</i>(p13) • <i>'Things are heavy to carry...'</i>(p12)
Secondary emotions	Secondary emotions such as guilt, shame, pride, and gratitude, arising from reflection on primary emotions, were also common among participants.	<ul style="list-style-type: none"> • <i>'...I am going through PTSD.'</i>(p1) • <i>'I am very tired. I am soul tired.'</i>(p2) • <i>'When my son is in a mood, it feels like my whole life is at a standstill.'</i>(p3) • <i>'I have been feeling so relieved knowing this child is in rehab. I am content with myself. It is not my fault that he decided to become an addict.'</i>(p7) • <i>'I am so tired and drained. I feel sleepy almost all the time. Sometimes I wish I could die because things become so heavy to carry.'</i>(p12)
Emotional instability	Emotional instability was common, with participants reporting fluctuating emotions linked to stress and uncertainty.	<ul style="list-style-type: none"> • <i>'Some days I feel on top of the world, and the next I can barely get out of bed. It's like a roller coaster.'</i> (p3) • <i>'My emotions are all over the place. One minute I'm hopeful, and the next I'm overwhelmed with despair.'</i>(p20)
Finding	Participants experienced a wide range of emotions, from immediate primary feelings like happiness and sadness to more complex secondary emotions such as guilt and relief. Emotional instability was common, with many describing their feelings as fluctuating and closely tied to stress and uncertainty in their lives. Theme 11 examines how participants' emotions shape their sense of meaning and purpose.	

Theme 11		
Sense of meaning and purpose		
Category	Analysis	Supporting quotations
Sense of purpose	A strong sense of purpose motivated many participants, often focused on caregiving, personal growth, and future goals.	<ul style="list-style-type: none"> • <i>'My life means a lot to me because I still have a child and grandchild to live for.'</i>(p14)
Uncertainty	Many participants felt uncertain about the future and their roles, due to instability and challenges, which affected their ability to plan and hope.	<ul style="list-style-type: none"> • <i>'I don't know how to deal with him' (p1)</i> • <i>'I often feel lost, like I don't know what's coming next. It's hard to see a clear path ahead.'</i> (p11) • <i>'Every day is something new.'</i>(p22)
Finding	The findings for Theme 11 highlight that a strong sense of purpose drove many participants, often centred on caregiving, personal growth, and future aspirations, which motivated their actions. However, a common experience was uncertainty about the future and their roles, caused by instability and challenges, which hindered their ability to plan and maintain hope. Theme 12 explores how participants interpret their own life experiences, achievements, and hardships through reflection.	
Theme 12		
Reflection on life and experiences		
Category	Analysis	Supporting quotations
Positive reflections	Many participants viewed their experiences positively, emphasizing personal growth, achievements, and lessons learned from adversity.	<ul style="list-style-type: none"> • <i>'Looking back, I can see how much I've grown. Every challenge has made me stronger.'</i>(p4) • <i>'I'm proud of how far I've come. I've faced a lot of obstacles, but I've managed to overcome them and build a better life for myself and my family.'</i>(p19)
Negative reflections	Some participants struggled with negative reflections, focusing on regrets, missed chances, and hardships.	<ul style="list-style-type: none"> • <i>'I've made a lot of mistakes, and sometimes it's hard not to get stuck in those thoughts.'</i> (p8) • <i>'There are days when all I can think about is how different things could have been if I had made better choices. It's a heavy burden to carry.'</i>(p15)
Imperturbable feelings	Some participants described feeling calm and detached, using this as a coping mechanism for ongoing challenges.	<ul style="list-style-type: none"> • <i>'I've learned to take things as they come and not let anything disturb my peace. It's the only way to stay sane in this situation.'</i> (p12) • <i>'I've become pretty numb to everything. It's like I'm just going through the motions without really feeling anything.'</i>(p21)

Accomplishments	Many participants found pride and validation in personal accomplishments, such as overcoming addiction, reaching goals, and making life changes.	<ul style="list-style-type: none"> • <i>'Getting clean was the biggest achievement of my life. It wasn't easy, but I did it.'</i> (p6) • <i>It showed me that I can achieve anything if I set my mind to it.'</i>(p23)
Finding	Participants' reflections varied from positive growth and pride in accomplishments to struggles with regrets and detachment. Many viewed their challenges as opportunities for personal growth and validation through achievements, while some grappled with negative thoughts or adopted emotional detachment as a coping strategy. Theme 13 explores how reflections on experiences, emotions, and meaning-making shape participants' sense of fulfillment, control, and empowerment.	
Theme 13	Personal fulfillment and control	
Category	Analysis	Supporting quotations
Achieved fulfillment	Some participants felt self-fulfilled and content with their achievements and life direction.	<ul style="list-style-type: none"> • <i>'I feel fulfilled because I've reached many of my personal and professional goals. It gives me a great sense of satisfaction and purpose.'</i> (p22) • <i>'Helping others makes me feel like I'm living a meaningful life.'</i>(p17)
Unfulfilled aspirations	Others felt unfulfilled due to unmet goals and ongoing struggles.	<ul style="list-style-type: none"> • <i>'I don't feel fulfilled. There's so much I want to do, but my circumstances are keeping me back.'</i> (p9) • <i>'I've been stuck in a cycle of trying and failing. It's hard to feel fulfilled when you're always struggling.'</i>(p24)
On the path to fulfillment	Some participants were in transition, feeling self-fulfillment close but not yet reached.	<ul style="list-style-type: none"> • <i>'I'm on the way to feeling fulfilled. I've made progress, but there's still a lot I want to accomplish.'</i> (p14) • <i>'I'm getting there...I believe I can achieve my goals with time and effort.'</i>(p26)
Regained control	A few participants felt regained control, leading to empowerment and stability.	<ul style="list-style-type: none"> • <i>'I've taken back control of my life. It was a struggle, but now I make decisions that are best for me and my family.'</i> (p7) • <i>'I've learned to manage my circumstances better. It feels good to be in control.'</i>(p18)
Lack of control	Some participants felt a lack of control due to external challenges.	<ul style="list-style-type: none"> • <i>'I feel like everything is out of my control. No matter what I do, things keep falling apart.'</i> (p3) • <i>'I've lost control over so many aspects of my life. It's a constant battle just to keep my head above water.'</i>(p11)

Fluctuating control	Some participants experienced fluctuating control, feeling both empowered and helpless.	<ul style="list-style-type: none"> • <i>'There are days when I feel in control, and other days when everything feels chaotic.'</i> (p10) • <i>'It's a mix. Sometimes I can handle things well, but other times it's overwhelming.'</i>(p22)
Lost control over time	A few participants recalled past control they've lost due to major life changes.	<ul style="list-style-type: none"> • <i>'I used to have everything under control, but now it's just too much to handle.'</i> (p1) • <i>'There was a time when I felt in charge of my life, but those days are gone. Now it's all about surviving day by day.'</i> (p18)
Finding	Participants' experiences of fulfillment and control varied widely. Some felt self-fulfilled and content with their achievements, while others struggled with unmet goals and ongoing challenges. A portion was in transition, hopeful of reaching fulfillment soon. Regarding control over their lives, a few felt empowered and stable, some felt powerless due to external difficulties, others experienced fluctuating control, and a few reflected on lost control from past life changes.	

4.4.3 Body mapping

4.4.3.1 Body mapping data collection instrument

The body mapping process involved participants tracing their body outlines on large sheets of paper, creating a visual representation of themselves. This interactive and reflective activity was complemented by a workbook and a body-mapping facilitation guide (Appendix 1), which allowed participants to record additional thoughts and details that could not be visually depicted on the map. The activities were thoughtfully designed by the researcher to align with specific objectives, as detailed in Table 13, where the activity is methodologically explained and also linked to the SoC theory. Each step was structured to encourage self-reflection, personal expression, and engagement with the themes of identity and well-being.

While body mapping proved to be a powerful and engaging tool for all participants, it became evident that individual preferences and comfort levels influenced how participants approached the group-based activity. Although there was no indication of reluctance or lack of enjoyment, some participants appeared more reserved during group discussions, possibly due to personal preferences for privacy or reflective silence. To accommodate different styles of participation, the activity was supplemented with a workbook. This allowed participants to record detailed information that could not be fully captured on the map, ensuring everyone had the opportunity to share their insights in a manner that was most comfortable for them.

The integration of visual and written components ensured a comprehensive approach that supported participant engagement and self-expression, while respecting diverse needs and preferences. Activities 1 to 9 use the body map as the basis for the probe, and Activity 10 asks participants to reflect on the body-mapping activities.

The body-mapping activities encouraged participants to explore their identity and physical presence by tracing their body outlines. This reflective exercise heightened their awareness of their physical selves, helping them connect with their bodies and recognise their unique features. Participants reported increased self-awareness, empowering them to appreciate their identity and evaluate self-care practices critically. The activity also reinforced their sense of manageability, fostering confidence in their ability to

cope with life's challenges. Overall, it highlighted the significance of physical and psychological self-connection in promoting well-being.

In Table 13, the activities to facilitate conversations are linked to a methodological purpose and to alignment with the SoC theory.

Table 13: Body mapping activities aligned to the SoC theory

Activity	Methodological purpose	Relation to SoC theory
Activity 1: The Meaning of colour	Explore participants' emotional and psychological associations with different colours, linking these associations to personal experiences and narratives.	SoC Theory: Enhancing comprehensibility. Relation: Understanding personal associations with colours can provide insights into how individuals make sense of their emotional and psychological experiences, contributing to a clearer understanding of their inner world.
Activity 2: Engaging with identity and physical presence through body outline tracing	Investigate how participants perceive their physical selves and conceptualise their identities through tracing their body outlines.	SoC Theory: Reinforcing manageability. Relation: Tracing the body outline encourages participants to engage directly with their physical selves, potentially fostering a sense of control and mastery over how they perceive and present their identities.
Activity 3: Early childhood experiences and school years	Elicit memories and reflections on formative experiences during childhood and school years, examining their impact on current self-perception.	SoC Theory: Strengthening meaningfulness. Relation: Reflecting on formative experiences helps participants make sense of how these events have shaped their identity and life narrative, contributing to a coherent understanding of their personal history.
Activity 4: Face sculpture	Encourage participants to create symbolic representations of their facial features, exploring self-image and identity construction through artistic expression.	SoC Theory: Enhancing comprehensibility. Relation: Creating symbolic representations of facial features allows participants to externalise and explore their self-image, aiding in the integration of personal perceptions and identity constructs.
Activity 5: Skin, bodily illnesses, and psychological matters	Investigate the relationship between bodily experiences (like illnesses) and psychological well-being, exploring how these factors shape individuals' self-concept.	SoC Theory: Reinforcing manageability. Relation: Exploring the relationship between bodily experiences and psychological wellbeing helps participants manage stress related to health issues, potentially enhancing their ability to cope with such challenges.
Activity 6: Symbols – Conceptual drawing	Analyze the significance of symbols chosen by participants in representing personal	SoC Theory: Strengthening meaningfulness.

	narratives and identities, examining the symbolic language of self-expression.	Relation: Choosing and interpreting symbols in artwork allows participants to attribute personal significance to abstract concepts, contributing to a coherent narrative of their values and beliefs.
Activity 7: Life stories from after school to present	Document participants' life trajectories from post-school years to the present, capturing significant events, transitions, and personal growth.	SoC Theory: Strengthening meaningfulness. Relation: Documenting life stories helps participants find meaning in their experiences, facilitating a sense of coherence by connecting past events with current life circumstances and future aspirations.
Activity 8: The Shadow – Supportive figures	Explore the influence of supportive figures (e.g., mentors, family members) in participants' lives, examining how these relationships shape self-perception and resilience.	SoC Theory: Reinforcing manageability. Relation: Recognising supportive figures emphasises Social resources that contribute to resilience and coping strategies, reinforcing participants' ability to manage stressors and maintain a balanced perspective.
Activity 9: Hopes for the future	Investigate participants' aspirations and visions for the future, reflecting on how these hopes influence their current perspectives and life trajectories.	SoC Theory: Strengthening meaningfulness. Relation: Exploring future aspirations encourages participants to envision positive outcomes, fostering a sense of coherence by aligning current actions and beliefs with future goals and aspirations.
Activity 10: Reflection on body mapping and workshop	Facilitate reflection on the body-mapping process itself, allowing participants to articulate insights gained, personal growth, and the overall impact of the workshop on their self-awareness.	SoC Theory: Enhancing comprehensibility. Relation: Reflecting on the body mapping process promotes self-awareness and understanding of personal growth, contributing to a clearer narrative of one's journey and experiences.

4.4.3.2 Body mapping data

This collection of body maps reflects the personal journeys, emotions, and identities of participants involved in the study. Each figure is a unique visual expression of self-awareness, capturing participants' reflections on their physical and emotional experiences. Using vibrant colours, symbols, and written elements, the maps highlight themes such as resilience, self-care, healing, and hope. The diversity in artistic style and content showcases individual perspectives and stories, emphasising the importance of self-connection and the role of creativity in personal growth and recovery.



Figure 19: Compilation of body mapping representation

The analysis of colour as associations among the participants revealed a variety of emotions and perceptions linked to it. These findings offer valuable insights into the emotional responses of the participants as they show how colours can evoke a wide range of feelings and memories.

Red

The colour red was most frequently associated with "danger" and "blood." This strong connection suggests that red evokes thoughts of intense and potentially harmful situations or emotions among participants. In addition to these associations, red was also linked to other emotions such as "love", "pain", "hurting", "warmness", "anger", and "sadness". These varied associations highlight the colour red's role in representing both positive and negative emotional states, making it a colour of significant emotional intensity. "Red represents danger, especially during difficult times with my family. *It's a powerful colour for me*", (p2).

Blue

Blue was commonly linked to feelings of "happiness" and "calmness." These associations suggest that blue is perceived as a potentially soothing and positive colour. Participants also connected blue with natural elements such as "air" and "sea". This reinforces its calming effect. In addition, blue was associated with characteristics such as "truth", "sociable", "nature", "joy", and being a "favourite colour." This colour therefore evoked feelings of tranquility, positivity, and social connectedness. "Blue always makes me feel calm and in control. It reminds me of peaceful times by the ocean during my childhood" (p10).

Yellow

Yellow was frequently linked to "jealousy" and "peace/peacefulness". These contrasting associations indicate that yellow can evoke both positive and negative emotions. Additional associations with yellow included "warmth", "unbalanced", and "sun". The warmth and sun-related associations suggest a connection to energy and positivity, while "unbalanced" and "jealousy" reflected its potential to evoke more complex emotions. "Yellow reminds me of jealousy, it's sharp and intense, like the feeling of envy" (p3); "Yellow is peaceful to me, it has a soothing and light presence that calms my mind" (p6).

Black

The colour black was predominantly associated with "darkness" and "mourning", which reflected themes of grief and emotional hardship. Participants also linked black with "death", "bitterness", "storm", and "anxiety". These associations suggest that black is a colour deeply connected with negative emotional states and difficult experiences, emphasising its role in symbolising the darker aspects of the human psyche. *"Black reminds me of death, it's final and absolute, like the end of something" (p1).*

White

White was often linked to "peace" and "purity", symbolising calmness and cleanliness. These associations highlight white's role as a colour of serenity and simplicity. Other associations included "outcome", "beauty", and "cleanliness", which further emphasise white's connection to positive and clear states of being. This colour's associations suggest it is perceived as a symbol of purity, tranquility, and positive outcomes. *"White is peace, it's pure and calm, like a quiet moment that brings serenity" (p4).*

Orange

Orange was primarily associated with "joy", highlighting its positive and uplifting connotations. One participant also mentioned "fear", indicating that while orange is generally seen as a happy colour, it can also bring about feelings based on personal experiences and contexts. *"Orange fills me with joy, it's bright and lively, like a burst of sunshine" (p5); "Orange is fear for me, it's unsettling and reminds me of caution" (p15).*

Green

Green was associated with "grass" and "safe", this suggests a strong link to nature and feelings of security. These associations underscore green's role in evoking thoughts of the natural world and a sense of safety and well-being. *"Green reminds me of grass, it's fresh and comforting, like lying on a soft lawn. It also makes me feel safe, like being surrounded by nature's embrace" (p. 9).*

Purple

Purple was linked to "hurt", "bold", and "in charge". These associations suggest that purple is seen as a colour of both vulnerability and strength. It evokes feelings of pain while also conveying a sense of authority and boldness, reflecting its complex, multifaceted nature. *"Purple represents a mix of emotions*

for me. It symbolises hurt, like a bruise that lingers. At the same time, it feels bold, commanding attention and respect. It also makes me think of being in charge, empowered and confident” (p17).

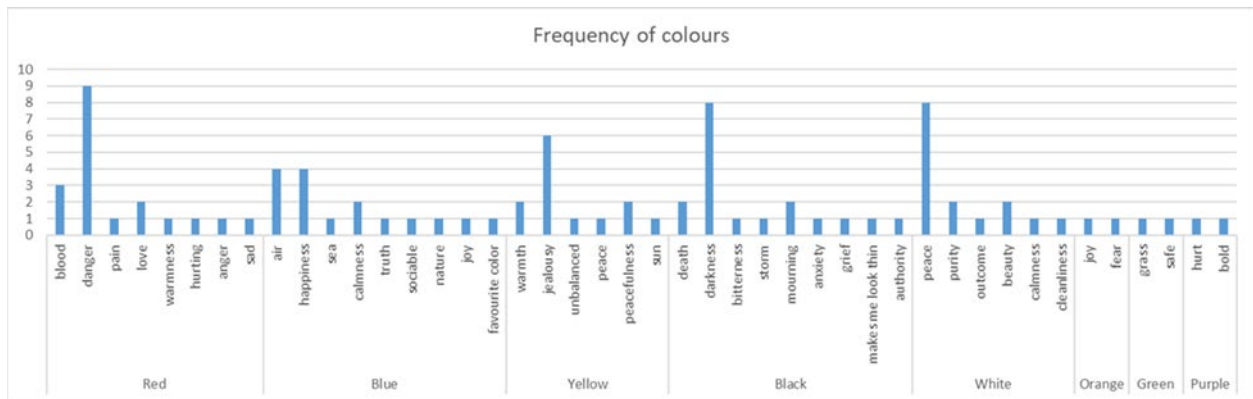




Figure 21: Frequency of colours (Activity 1 of bodymapping workbook)

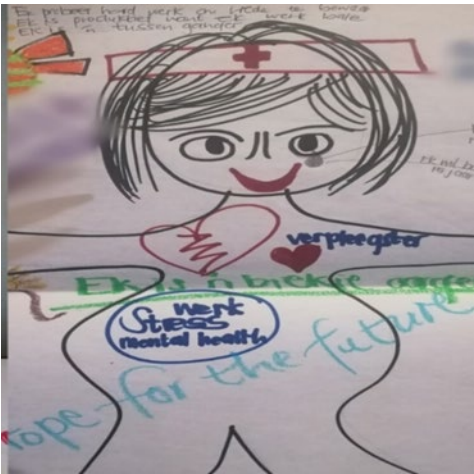
According to the graph above (Figure 21), red, yellow, and black are associated with strong emotions and concepts, as red is mostly linked to blood and danger. Yellow is associated with warmth and black is associated with darkness and death. The colours that appear less frequently are blue, white, orange, green, and purple, and are linked to more calm and neutral emotions such as peace, calmness or cleanliness. This suggests that, in contrast to lighter tones, brighter and darker colors stimulate higher emotional connections.

Activity 2 (Activity 2-7 was the body mapping)

The activity of tracing body outlines and adding personal details helped participants connect with their sense of identity and physical presence. By creating visual representations of their bodies, individuals could reflect on their self-concept and personal narratives. Personalising these outlines with their name(s)/nicknames, surname, and date of birth promoted mindfulness and self-awareness by encouraging participants to become more attuned to their physical form. The inclusion of their personal details bridged the gap between their physical selves and self-concept, combining their physical and psychological dimensions of identity.

Table 15: Image analysis of the body maps (McCorquodale & DeLuca, 2020)

Level of analysis	Participant's image	Description
Composition level of analysis		<p>The figure is placed in the centre of the picture with lots of surrounding space. This suggests that the participant is focusing on themselves (Malchiodi, 2007). The distance between body parts and surrounding objects (such as the flower and the heart) demonstrates the participant's attempt to meaningfully and symbolically arrange pieces, thereby displaying a tidy personal environment (Furth, 2010). Composition helps us understand how the participant sees the world and where they see themselves in it (Edwards et al., 2023).</p>
Semiotic level of analysis		<p>Semiotic symbols used by this figure include arrows pointing toward various parts of the body (possibly signifying pain or healing), colored nails (signifying self-expression), spectacles (perhaps signifying intellect or insight), and hearts (signifying love). The figure's yellow outline may symbolize vitality or warmth. Through cultural and individual interpretations, these symbols represent identity and emotional experience (Malchiodi, 2007; Furth, 2010; Edwards et al., 2023).</p>

<p>Discourse level of analysis</p>		<p>Particularly in relation to mental health, caregiving, and professional identity, this image contributes to social discourse. Using phrases like "verpleegster", (<i>nurse</i> in English) "hope for the future", and "mental health," the participant presents herself as a nurse and reflects discourses of care, resiliency, and professional pride. This demonstrates how cultural narratives influence the development of human identities (Malchiodi, 2007; Furth, 2010; Edwards et al., 2023), with healing professions often symbolising hope and transformation.</p>
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Finding based on Activity 2

Body mapping facilitates the integration of physical, emotional, and socio-cultural aspects of identity. Through the process of tracing and personalising body outlines, participants demonstrated increased self-awareness and reflection on their personal and professional identities.

At the composition level, the central placement of the figure and organised surrounding space suggested a focused exploration of self and the environment.

The use of semiotic symbols (e.g., hearts, arrows, coloured nails, spectacles) reflected nuanced emotional and psychological states, offering insight into how individuals experience pain, healing, intellect, and love.

At the discourse level, the inclusion of identity markers such as "verpleegster" (*nurse*) and references to "hope" and "mental health" revealed how participants drew from broader social narratives to affirm their professional roles and sense of purpose.

Together, these layers of analysis (Table 15) underscore the potential of body mapping as a powerful qualitative tool for visually expressing and analyzing the multifaceted nature of identity (McCorquodale & DeLuca, 2020; Malchiodi, 2007; Furth, 2010; Edwards et al., 2023).

Activity 3

Focusing on early childhood and school memories provides a profound lens through which to explore the formative influences that shape the identities and perspectives of the participants. Early childhood memories often serve as the foundational narratives of our lives, encapsulating initial encounters with family dynamics, cultural influences, and personal milestones. These memories not only evoke nostalgia but also reveal the roots of our beliefs, values, and emotional landscapes. Similarly, school memories offer a vivid representation of social interactions, academic challenges, and developmental milestones that contribute to our sense of self and understanding of the world. Together, these recollections illuminate the intricate interplay between personal experiences and broader societal influences, underscoring their enduring impact on our growth and outlook on life.

Finding based on Activity 3

Participants' identities and viewpoints are significantly shaped by recollections of early childhood and school experiences. These recollections emphasise shaping influences - such as family dynamics, cultural exposure, and life milestones - that serve as the cornerstone of their values, emotional development, and worldview.

Activity 4

The purpose of the face sculpture activity was to engage participants in a creative exercise where they sculpted representations of their faces based on self-observation. This activity aimed to explore participants' self-perception, body image, and identity construction through artistic expression. By visually interpreting and depicting their facial features, participants were encouraged to reflect on how they perceive themselves physically and emotionally. The process of translating self-observation into a tangible form fostered deeper self-awareness and critical reflection on internal and external aspects of identity.

Finding based on Activity 4

Participants demonstrated varying degrees of self-awareness and emotional insight during the face sculpture activity. Their sculptures reflected personal perceptions of physical appearance, emotional states, and self-worth. The creative process revealed how participants construct their identities through both visual and emotional lenses, highlighting the complexity of body image and self-perception. This activity provided valuable insights into how individuals internalize and express their sense of self.

Activity 5

Participants engaged in discussions and reflections that revealed how physical conditions - such as skin issues or other bodily experiences - had influenced their emotional wellbeing and self-concept. Many expressed heightened self-consciousness, shame, or social withdrawal during times of visible illness or bodily change, indicating a strong link between physical appearance and psychological state.

This activity highlighted the deep interconnection between physical health and mental health in shaping personal identity. Participants' narratives showed that bodily experiences often serve as catalysts for emotional responses and shifts in self-perception. Skin conditions, in particular, were commonly associated with feelings of embarrassment or diminished self-worth, suggesting that visible bodily changes may carry significant psychological weight. The analysis suggests that the body is not only a physical entity but also a site of emotional meaning and identity negotiation.

Finding based on Activity 5

Participants' experiences confirmed that physical health conditions significantly impact psychological wellbeing and self-concept. The activity revealed that skin conditions or bodily changes often influence how individuals see themselves and how they believe others perceive them, thereby shaping emotional responses and social behaviour. This underscores the importance of addressing both physical and mental health holistically in personal and clinical settings.

Activity 6

Participants created symbolic drawings that visually represented their emotions, values, life experiences, and identities. Each symbol chosen carried personal significance, often reflecting deep emotional experiences, cultural influences, and internal struggles or strengths. This process allowed participants to express complex inner states through metaphor and visual form.

The activity provided a creative platform for participants to externalise abstract thoughts and emotions. Symbols served as tools for non-verbal communication, revealing layers of meaning that might not easily surface through spoken language. The selection and explanation of these symbols demonstrated how participants construct identity and meaning through imagery, emphasising the role of culture, memory, and emotion in their self-expression. This also illustrated how symbolic representation can bridge the gap between conscious understanding and subconscious feeling.

Finding based on Activity 6

Participants were able to articulate aspects of their identities and emotional experiences through symbolic drawing, highlighting the effectiveness of symbolic expression as a method for exploring self-concept. The activity revealed that symbols hold powerful personal meaning and can uncover underlying emotions and narratives, making them valuable tools for psychological insight and identity exploration.

Activity 7

Participants shared detailed personal narratives outlining their life paths from after school to the present. These stories included milestones such as entering the workforce, pursuing further education, starting families, overcoming hardships, and achieving personal goals. The narratives revealed patterns of resilience, growth, and identity transformation over time.

The activity offered a longitudinal perspective on participants' lives, highlighting how identity is shaped and reshaped through experience, change, and adaptation. Reflections on transitions — such as moving from adolescence into adulthood or coping with life challenges — showed the dynamic nature of identity construction. The continuity in their stories demonstrated how past experiences inform present perspectives, while personal growth was often linked to moments of challenge, reflection, or support from others.

Finding based on Activity 7

Participants' life stories reflected a clear evolution of identity over time, shaped by a combination of personal choices, social influences, and life events. The narratives underscored the importance of life transitions in developing self-understanding and meaning-making. This finding emphasises that identity is not static but continually constructed through lived experience.

Activity 8

The purpose of the activity was to identify the influence of supportive figures such as mentors, family members, friends, or role models in participants' lives. Through reflection and discussion, participants identify and articulate the impact these supportive figures have had on their personal development, resilience, and sense of self.

Table 16: Excerpt of responses captured for Activity 8

	Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
The shadow						
These are the names of people (relatives, friends, teachers, community members, employers, leaders and mentors, organisations, objects, etc.) who were supportive and caring at different stages of your life, especially those who stood by you during difficult times. Write it below and indicate it all on your body map.	Neighbour & friend who also has a child whom is addicted.	Vriende Familie Kerk	biere en vriende, familie (goeie familie) op wie ek kan staatmaak in te van nood	Lisa (another participant) is 'n vriendin vanmy. Syhelp my baie met my gesin. Sy is 'nliefdevolle mens. Ek kan met my probleme, my hartseer na haar toe gaan.	God is die een wat my heeltemal by staan. Sinda (vriendin) en Siela (vriendin). Altwe is baie ondersteuning in my moeilike tye.	Karen, Moira, Nigel, interherlike gebedskringe van suider afrika, Carol, Ciska

Finding based on Activity 8

As seen in Table 16 above, participants recognised that supportive figures - such as family members, mentors, friends, or role models - played a crucial role in shaping their personal development, resilience, and identity. These individuals often provided emotional encouragement, guidance during difficult times, and served as positive examples, reinforcing participants' self-worth and motivating their growth. The activity revealed that the presence of consistent, affirming relationships significantly contributed to participants' confidence, coping strategies, and overall sense of self.

Activity 9

The purpose of the Hopes for the Future activity is to explore participants' aspirations, dreams, and visions for the future. Through guided reflection and discussion, participants articulate their goals, ambitions, and hopes, considering how these aspirations influence their current perspectives and life trajectories.

Table 17: Excerpt of responses captured for Activity 9

	Response 1	Response 2	Response 3	Response 4	Response 5	Response 6
Hopes for the future						
Write about your hopes for the futures. Indicate it in a sentence on your body map (e.g. "Learn from yesterday, live for today, hope for tomorrow).	That my children are completely free from addiction. I pray that they will have an encounter with the Lord. I want them to grow to their full potential. I want a happy, growing, blessed family.	Meer ondersteuningsgroepe, familie ondersteunings, kerk ondersteunings	Ek hoop dat ek enmy gesin gelukkig en as een die ander kant uitkom Te kan terug kyk en alles wat met ons gebeur het te kan gebruik as aansporing.	Ek wil graag 'n gelukkige gesin he	in my body map het ek baie harte gemaak dit simbool wie ek is en wat ek wil wees. Die wolke oor my hart en die donkerte om die wolk se ek laai nie my hart met jaloesie, afguns en soveel lelike dinge toe om woonplek te maak nie die leeu simbolies die sterkte binne my	Ek vertrou volkome op die Here dat daar verlossing vir my seun sal wees. Hy wil graag ophou met die drank. Maar hy se hy is te swak.

Finding based on Activity 9

Participants expressed a wide range of aspirations that reflected both personal growth and a desire for stability, purpose, and fulfilment. As indicated in Table 17, their hopes for the future revealed a strong connection between current life experiences and envisioned goals, demonstrating how future-oriented thinking shapes present motivation and decision-making. The activity highlighted that participants’ dreams often stemmed from past challenges or unmet needs, serving as powerful drivers of resilience, self-improvement, and identity formation.

Activity 10

The purpose of the Reflection on Body Mapping and Workshop activity is to facilitate participants’ reflection on their experience with the body mapping process and workshop sessions. Participants are encouraged to articulate insights gained, personal growth experienced, and the overall impact of the workshop on their self-awareness and understanding of their body narratives (Table 18).

Table 18: Excerpt of responses captured for Activity 10 Method

	Response 1	Response 2	Response 3	Response 4	Response 5	Response 6	Response 7	Response 8	Response 9
Reflection									
Do you see yourself continuing to write your life story, or autobiography, after the workshop now that you have made a start?	I don't know where to start	JA	Miskien in die toekoms	Ja ek sal voortgaan om hulp te kry	ja	no answer	yes	ja	yes

As seen by the figures, responses were captured reflecting participant engagement and responses during the intervention. This method formed part of a qualitative, participatory approach that emphasised the lived experiences, reflections, and personal narratives of participants. Table 19 shows the summary of participant reflections from activity 10

Table 19: Summary of Participant Reflections from Activity 10

Reflection question	Summary response	Activity finding
10.1 What have you learned about yourself during this workshop?	By considering their individual strengths and emotional development, participants in Activity 10.1 were able to become more self-aware. While some saw the value of compassion and patience, many came to the realisation that they are not to blame for their loved one's addiction. By fostering self-confidence, the exercise enabled participants to identify their inner resilience and participate more freely in conversations.	The activity fostered self-discovery and inner confidence, allowing participants to identify emotional strength and engage openly.
10.2 What have you learned about other participants?	Participants in Activity 10.2 came to understand that they share comparable struggles and aspirations, such as seeking support and a better life. By demonstrating that individuals are not alone in their challenges, the exercise promoted a sense of community. Through understanding how others handle challenging circumstances, participants become aware of some people's resilience and others' fragility. This contemplation promoted empathy and mutual understanding.	The activity highlighted shared human experiences, increasing mutual understanding and a sense of community.
10.3 Explain which exercises you liked the most, and which did you like the least?	In Activity 10.3, participants expressed the activities they preferred. Stakeholder and body-mapping were the most popular, with many participants praising the opportunity to consider support networks and personal relationships, as well as the visual representation. One participant emphasised the importance of body-mapping and how it enabled them to communicate their innermost thoughts. Others delighted in the artistic pursuits, including sketching and illustrating	Participants preferred expressive, visual tasks that allowed deep reflection, revealing varied engagement styles.

	<p>their interests. Although one participant expressed dissatisfaction with the writing tasks, there were few other replies that showed disapproval. Some participants expressed surprise at their capacity to express themselves in novel ways, but overall, they considered the exercises to be entertaining and enlightening.</p>	
<p>10.4 Do you see yourself continuing to write your life story, or autobiography, after the workshop now that you have made a start?</p>	<p>Participants considered whether they would keep writing their personal stories in Activity 10.4. Many said they will definitely continue or consider doing it in future, demonstrating their significant willingness to do so. According to one participant, the workshop opened their eyes and helped them understand themselves better. Some participants expressed uncertainty or said they needed more help before continuing, but others were excited because they saw it as an opportunity to share their stories with their loved ones or grow personally. In general, many people became interested in storytelling and self-reflection as a result of body mapping.</p>	<p>The activity sparked interest in ongoing self-expression and personal narrative writing.</p>
<p>10.5 How do you feel about your body map, and also as a testament and memorial to your life?</p>	<p>Participants in Activity 10.5 considered their body maps as representations of their life experiences. Numerous participants conveyed sentiments of positivity and pride; one participant mentioned that their body map emphasised their desire to inspire others and explained who they are. Others expressed satisfaction with their body maps and valued the knowledge they gained from the activity. Some, on the other hand, wished they could have improved their drawings or included more details. Some participants shared how their body map represented growth and promise for the future, acting as a testimony and memorial to their existence. One member acknowledged the importance of prioritising their health and taking care of themselves.</p>	<p>The body maps served as personal testimonials, capturing growth, self-awareness, and hopes for the future.</p>
<p>10.6 Looking at your map, what stands out for you?</p>	<p>In Activity 10.6, participants reflected on what stood out when looking at their body maps. Many participants highlighted significant symbols that represented their personal qualities or experiences. For instance, one person saw themselves as a flower, providing warmth to those around them, while another focused on support and sunshine. Some noted</p>	<p>Symbols offered meaningful insight into identity, emotions, and personal values.</p>

	feelings of sadness or helplessness, while others pointed to symbols like cars or bees, which reflected personal interests or work ethic. A few participants were drawn to symbols representing their honesty, resilience, or the joy they bring, such as a smile that persists through challenges.	
10.7 How did you find choosing a symbol? Why did you choose it?	In Activity 10.7, participants shared their experience of choosing a symbol and the reasons behind their choices. Many participants chose symbols that represented their core values and feelings. For example, one participant chose a symbol of love, believing it conquers all, while another picked a heart to reflect their loving nature. Others chose symbols representing light, such as a candle, to signify positivity, or a panda to symbolise the need to care for others. Some felt uncertain or faced mixed emotions about selecting a symbol, as they struggled to express themselves fully, while others found symbols representing honesty and productivity meaningful. A few participants also chose symbols that reflected their hobbies, like a basketball.	Symbols helped express core values and emotional truths, fostering introspection.
10.8 What did you find the most challenging?	In Activity 10.8, participants shared their reflections on what they found most challenging. Common challenges included self-expression, such as how to represent their emotions and experiences on the body map, with one participant mentioning the difficulty in depicting how they feel through the map. Others struggled with more personal topics, such as being a real parent, facing emotional vulnerability in front of others, or dealing with challenges like uncertainty about the future (e.g., waiting for a partner to propose). Some found it tough to open up in front of strangers, though one participant mentioned that the process brought out deep emotions that ultimately made them feel whole again.	The activity exposed emotional barriers and personal struggles, but also enabled healing through expression.
10.9 Do you feel the body mapping was useful?	In Activity 10.9, reflections on whether body mapping was useful varied, but there was a strong overall sense of its helpfulness. Many participants responded positively, with several saying it was very useful or therapeutic, offering valuable insights into self-awareness and their	Body mapping was generally seen as valuable for promoting self-awareness and personal growth.

	path forward. Some participants, like Response 1, expressed uncertainty, but most agreed that the activity was beneficial in helping them reflect on their identity and personal journey	
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Method analysis

The body mapping method startled the participants at first, but they soon warmed up and became interested. They traced the shapes of their bodies while lying flat on the ground, then added specific signs, pictures, and significant sentences while working on the floor. Many of them reported feeling happy, excited, and energised during the activity, and their comments were overwhelmingly favourable. If the required resources were available, some participants stated that they would continue utilising body mapping in the future, and others expressed that they wished they had more time to commit to the exercise.

Summary of findings for Activity 10

Activity 10, generally focused on body mapping and reflective self-exploration, and revealed that participants experienced a significant increase in self-awareness, emotional insight, and personal growth. Through creative expression and storytelling, they were able to reflect on their identities, relationships, challenges, and aspirations. The use of visual tools such as symbols and maps facilitated deeper introspection and the articulation of emotions that were otherwise difficult to express.

Key findings include:

- Participants gained clarity about their strengths, emotional resilience, and personal values.
- Many discovered that they are not alone in their struggles, fostering a sense of community and empathy.
- The most impactful activities involved visual and symbolic representation (e.g., body mapping, stakeholder maps), which allowed for authentic and therapeutic expression.
- While some found certain tasks (e.g., writing or emotional vulnerability) challenging, most found the overall experience valuable and enlightening.
- The majority expressed interest in continuing their personal stories beyond the workshop, indicating the activity’s long-term impact on self-reflection and healing.

Overall, Activity 10 was effective in promoting self-expression, emotional healing, and interpersonal connection, empowering participants to make sense of their journeys and look forward with hope.

4.4.3.4 *Body mapping Thematic Analysis*

These themes are mapped to the body mapping activities. This is because each theme reflects a dimension of the participants' experiences that emerged through symbolic, emotional, and narrative representations during the body mapping sessions. The use of visual metaphors, placement of symbols, color choices, and narrative captions during the activities all served as data points that informed the thematic development. For example, Family Influence and Self-Perception were reflected in depictions of family members and in how participants represented their bodies in relation to family dynamics. Artistic Exploration and Self-Expression directly relate to how participants used the medium of art to convey their emotions and identities.

Themes were derived through a process of immersion, coding, clustering, and abstraction of both visual and narrative data, in line with arts-based and body mapping research methodologies (Gastaldo et al., 2012; Coemans & Hannes, 2017; De Jager et al., 2016). The analysis followed these steps:

Deriving themes Process

1. Data familiarisation

- **Immersion in the data:** Observing and reviewing the completed body maps, participant narratives, and debrief discussions.
- **Process:** All participant responses from each activity in the workbook (e.g., meaning of colour, body outline tracing, childhood experiences) were read multiple times.
- **Purpose:** To gain an overall sense of the content, emotional tone, and recurring ideas.

2. Initial coding

- **Process:** Responses were broken down into meaningful units (words, phrases, sentences).
- **Example:**
 - "Red represents danger, especially during difficult times with my family." → Codes: *danger, family, emotion*
 - "Tracing my body outline made me more aware of my physical presence." → Codes: *body awareness, self-perception, identity*
- **Purpose:** To identify and label key ideas, feelings, and experiences expressed by participants.

3. Collating and clustering codes across activities

- **Process:** Codes from all activities were grouped to look for patterns and similarities.
- **Clustering codes:** Grouping related codes into conceptual categories (e.g., symbols of strength coded into "resilience").
- **Example:**

- Codes like *danger, pain, hurt* (from Activity 1) and *vulnerability, illness* (from Activity 5) were grouped as *Emotional Expression and Vulnerability*.

4. Theme development

- **Process:** Codes were clustered into broader themes that captured the essence of participants' experiences.
- **Example:**
 - Codes related to *family, community, and support* (from Activities 3 and 8) were grouped under *Family Influence and Social Support Networks*.
 - Codes about *self-awareness, identity, and reflection* (from Activities 2, 7, and 10) became *Self-Discovery and Identity Construction*.
- **Purpose:** To create themes that are both distinct and comprehensive, representing the major areas of meaning in the data.

5. **Validation:** Ensuring themes were consistently represented across multiple body maps and narratives, and aligned with research objectives.

6. Reviewing and refining themes

- **Process:** Themes were checked against the data to ensure they accurately reflected participants' responses and were not overlapping or too broad.
- **Example:**
 - If two themes overlapped (e.g., *Emotional Expression* and *Emotional Connection*), their boundaries were clarified or merged if appropriate.

7. Mapping themes to activities

- **Process:** Each theme was linked back to the specific activities where it was most evident.
- **Example:**
 - *Artistic exploration and self-expression* were strongly represented in Activities 1, 4, and 6.
 - *Resilience and coping strategies* appeared in narratives from Activities 3, 5, 8, and 9.

The bodymapping thematic findings are presented in Table 20.

Table 20: Body mapping themes derived

Body mapping themes	Finding
1. Family Influence and Self-Perception	Family relationships significantly shaped participants' views of themselves, influencing both their sense of worth and emotional grounding.
2. Emotional Expression and Vulnerability	The body maps served as safe spaces for participants to express deeply held emotions, revealing the tension between strength and vulnerability.
3. Resilience and Coping Strategies	Participants often depicted symbols of strength and survival, indicating that despite challenges, they developed personal strategies to cope and endure.

4. Self-Discovery and Identity Construction	The process of mapping helped participants reflect on who they are and who they aspire to be, revealing evolving and multifaceted identities.
5. Social Support Networks and Community Influence	Relationships with peers, mentors, and community members emerged as critical sources of encouragement, belonging, and emotional support.
6. Artistic Exploration and Self-Expression	The creative process allowed participants to communicate experiences that were difficult to articulate in words, fostering a deeper sense of personal meaning.
7. Manageability and Symbolic Representation	The use of symbols representing control, chaos, or stability highlighted participants' perceived ability (or struggle) to manage life's challenges.
8. Career, Education, and Personal Fulfillment	Aspirations and achievements in education and career were key to participants' sense of purpose and self-worth, often linked to hopes for transformation.
9. Emotional Connection and Reflection	The reflective nature of body mapping prompted emotional introspection, helping participants make sense of past experiences and envision future growth.

Table 20 presents the key themes that emerged from participants' body-mapping activities. This revealed insight into their lived experiences. At the heart of their personal reflections, were influences of family, emotional vulnerability, and the development of resilience. Symbolic and artistic expression allowed participants to explore their evolving identities, coping mechanisms, and aspirations for personal and professional growth. Social support networks and community connections also featured, suggesting that it provide a sense of belonging. In summary, the body mapping process facilitated self-discovery, emotional reflection, and a meaningful exploration of life's challenges and possibilities.

Each of the nine themes is directly mapped to specific activities in the body mapping workbook. The tenth theme refers to the reflection. See Table 21 with examples from the data.

Table 21: Mapping activities to themes

Activity No.	Activity title	Primary related theme(s)	Rationale/Justification
1	The meaning of colour	Emotional Expression and Vulnerability Artistic Exploration and Self-Expression Emotional Connection and Reflection	Participants use colour to express and reflect on emotions, linking artistic choices to inner states and self-expression.
2	Engaging with Identity and Physical Presence through Body Outline Tracing	Self-Discovery and Identity Construction Manageability and Symbolic Representation	Tracing the body fosters self-awareness, identity reflection, and a sense of control through visual representation.
3	Early Childhood Experiences and School Years	Family Influence and Self-Perception Resilience and Coping Strategies	Reflections on upbringing, family, and early school experiences reveal the impact of social

		Social Support Networks and Community Influence Career, Education, and Personal Fulfillment	context, support, and resilience on identity and aspirations.
4	Face Sculpture	Emotional Expression and Vulnerability Artistic Exploration and Self-Expression	Creating faces with various materials explores and communicates emotions, preferences, and aspects of identity through artistic means.
5	Skin, Bodily Illnesses, and Psychological Matters	Emotional Expression and Vulnerability Resilience and Coping Strategies	Exploring skin and illness brings out emotional and psychological experiences, as well as coping mechanisms in response to physical and mental health challenges
6	Symbols – Conceptual Drawing	Manageability and Symbolic Representation Artistic Exploration and Self-Expression	Drawing symbols enables abstract representation of complex feelings and experiences, supporting manageability and creative self-expression
7	Life Stories from After School to Present	Self-Discovery and Identity Construction Career, Education, and Personal Fulfillment	Narratives about life after school highlight ongoing identity development, aspirations, and fulfilment in personal and professional domains.
8	The Shadow – Supportive Figures	Social Support Networks and Community Influence Resilience and Coping Strategies	Identifying and reflecting on supportive figures emphasises the role of social support in resilience and well-being
9	Hopes for the Future	Career, Education, and Personal Fulfillment Resilience and Coping Strategies	Articulating hopes and goals underscores aspirations, future orientation, and the resilience needed to pursue personal fulfillment.
10	Reflection on Body Mapping and Workshop	Emotional Connection and Reflection Self-Discovery and Identity Construction	Reflecting on the workshop process fosters integration of insights, emotional processing, and deeper self-understanding.

- Artistic activities (e.g., Activities 1, 4, 6) are closely linked to themes of emotional expression, artistic exploration, and symbolic representation, as participants use creative processes to externalise inner experiences.

- Narrative and reflective activities (e.g., Activities 3, 7, 10) strongly relate to self-discovery, identity construction, and reflection as participants make sense of their life stories and workshop experiences.
- Activities focusing on relationships and support (e.g., Activities 3, 8) map to family, community, and resilience themes, highlighting the importance of social networks and coping strategies.
- Activities addressing health and the body (e.g., Activities 2, 5) are linked to manageability, symbolic representation, and vulnerability, as participants confront physical, psychological, and emotional challenges.

This mapping ensured that each activity was purposefully grounded in one or more core themes, supporting a cohesive, holistic exploration of participants' lived experiences.

In Activity 2, reflections on body tracing revealed important themes such as self-awareness, body image, and control. These reflections contributed to processes of self-discovery and identity construction, while also touching on the concept of manageability of one's body and experiences. In Activity 3, the exploration of childhood stories brought forward key aspects related to family, community, and resilience. These narratives highlighted the influence of family, the importance of social support, and the development of resilience and coping strategies over time.

An extract from the code book is presented in Table 22, showing the theme linked to a SoC dimension.

Table 22: Example from the code book

Activity 2: Engaging with Identity and Physical Presence through Body Outline Tracing															
Participant 1			Participant 2			Participant 3			Participant 4			Participant 5			
	Theme	SoC		Theme	SoC		Theme	SoC		Theme	SoC		Theme	SoC	
Tracing my body outline made me more aware of my physical presence and the space I occupy. It was a powerful experience to see my body's shape on paper, and it made me think about how I view myself and how others might see me.	heightened awareness of their physical selves	Increased Self-Awareness	manageability	I realised that I often ignore my physical self when thinking about my identity. This activity helped me connect with my body and acknowledge its role in shaping who I am. It was empowering to take control of how I present myself through this exercise.	Empowerment and Control	manageability	heightened awareness of their physical selves	Increased Self-Awareness	manageability	heightened awareness of their physical selves	Increased Self-Awareness	manageability	heightened awareness of their physical selves	Increased Self-Awareness	manageability
				heightened awareness of their physical presence reinforced their ability to manage and cope with their self-						This activity made me think about my body image and how critical I can be of myself. Tracing my body helped me appreciate my unique shape and features.			I felt a sense of ownership over my body as I traced it. It made me more confident in my physical presence and how I carry myself.		

Activity 3: Early Childhood Experiences and School Years												
Participant 1			Participant 2			Participant 3			Participant 4			
	Theme	SoC		Theme	SoC		Theme	SoC		Theme	SoC	
Reflecting on my childhood made me realise how much my early experiences with my parents shaped my self-esteem. It was eye-opening to see the connection between my past and present self."	Memories of nurturing, support, or challenges at home shaped their foundational beliefs about themselves	Family Influence and Self-Perception	meaningfulness	School years were recalled with a blend of emotions, including joy, struggle, and nostalgia	School Memories and Emotional Resonance	meaningfulness	Early friendships and peer interactions were highlighted as crucial in developing social skills and confidence	Development of Social Skills and Confidence	meaningfulness	Reflecting on past challenges	Resilience and Overcoming Challenges	meaningfulness
			Thinking about my school years brought back memories of both joy and struggle. It helped me understand why I am the way I am today."				My early friendships played a big role in shaping my social skills and confidence. This activity made me appreciate those formative years."			Looking back at my childhood, I can see how certain events influenced my resilience and determination. It was a meaningful reflection."		

Table 23: Summary of Theme Derivation Steps

Step	What Was Done	Example from Data
Data Familiarisation	Read all responses	"Red represents danger..."
Initial Coding	Labelled key words/phrases	Codes: danger, family, self-awareness
Collating Codes	Grouped similar codes	Codes: danger, pain, hurt → Emotional Expression
Theme Development	Clustered codes into broader themes	Family, community, support → Social Support Networks
Review and Refinement	Checked accuracy and clarity of themes	Merged/clarified overlapping themes
Mapping to Activities	Linked themes to specific workbook activities	Emotional Expression → Activities 1, 5; Social Support → 3, 8

The themes were systematically derived using established qualitative methods, ensuring they are grounded in the actual words and experiences of participants, as captured in each workbook activity. This process makes the themes both credible and clearly linked to the data (Table 23).

Table 24: Themes from body mapping activities and participant reflections

Theme	Analysis	Supporting Quotations
<p>1. Family Influence and Self-Perception</p>	<p>This reflection highlights how early familial relationships play a crucial role in shaping self-esteem and identity. Participants recognised that positive experiences, such as nurturing and support, fostered a strong sense of self-worth, while challenging interactions often led to internalised doubts or insecurities. These early dynamics continue to influence how individuals perceive themselves and navigate relationships in adulthood.</p>	<ul style="list-style-type: none"> • <i>"Reflecting on my childhood made me realise how much my early experiences with my parents shaped my self-esteem. It was eye-opening to see the connection between my past and present self." (p1).</i>
<p>Finding</p>	<p>Relationships early in life have a big impact on the participants' self-esteem as support from family built confidence, while conflict led to long-lasting self-doubt.</p>	
<p>2. Emotional Expression and Vulnerability</p>	<p>The sculptures created by participants served as powerful expressions of their emotions and vulnerabilities, particularly in relation to self-esteem and body image. As participants engaged in sculpting, themes of self-acceptance and resilience emerged, especially when confronting perceived imperfections.</p>	<ul style="list-style-type: none"> • <i>"Reflecting on my childhood made me realise how much my early experiences with my parents shaped my self-esteem. It was eye-opening to see the connection between my past and present self" (p1).</i> • <i>"I noticed I exaggerated certain features in my sculpture, which reflected my insecurities. It made me confront those feelings in a constructive way" (p4).</i>

Finding	Sculpting allowed participants to face their fears and feelings which resulted in self-acceptance and strength.	
3. Resilience and Coping Strategies	Participants noted the influence of supportive figures, who provided emotional and practical support, helping them navigate personal challenges and develop resilience.	<ul style="list-style-type: none"> • <i>'Looking back at my childhood, I can see how certain events influenced my resilience and determination. It was a meaningful reflection" (p4).</i>
Finding	Challenges are overcome with resilience due to supportive relationships.	
4. Self-Discovery and Identity Construction	This collection of reflections reveals a powerful journey of self-awareness, identity construction, and emotional growth. Through body tracing, participants became more attuned to their physical presence and how it relates to self-perception, often confronting critical self-views and replacing them with appreciation and empowerment. These experiences illustrate resilience, as individuals begin to reclaim ownership of their bodies and redefine how they present themselves. The activities also prompted deeper introspection about childhood and familial influence, linking early experiences with present self-esteem and identity. The face sculpture exercise further emphasised the contrast between self-perception and external perceptions, fostering a nuanced understanding of identity. Collectively, these insights underscore the transformative potential of reflective activities in promoting self-acceptance, confidence, and personal growth.	<ul style="list-style-type: none"> • <i>"Tracing my body outline made me more aware of my physical presence and the space I occupy. It was a powerful experience to see my body's shape on paper, and it made me think about how I view myself and how others might see me" (p1).</i> • <i>"I realised that I often ignore my physical self when thinking about my identity. This activity helped me connect with my body and acknowledge its role in shaping who I am. It was empowering to take control of how I present myself through this exercise"(p2).</i>
Finding	Reflective activities increase awareness, combat negative self - perception, and allow participants to accept themselves.	

<p>5. Social Support Networks and Community Influence</p>	<p>These reflections illustrate the powerful role of social support networks in shaping identity, confidence, and worldview. The first quote highlights how early friendships serve as foundational experiences for developing social skills and self-assurance, emphasising the lasting impact of peer relationships on personal growth. The second quote underscores the influence of cultural background and community, showing how values like family unity and tradition are internalised through close-knit social environments. Together, these statements affirm that both peer and cultural support systems are crucial in shaping a person’s self-perception, resilience, and sense of belonging.</p>	<ul style="list-style-type: none"> • <i>"My early friendships played a big role in shaping my Social skills and confidence. This activity made me appreciate those formative years"(p11).</i> • <i>"My cultural background has always played a significant role in how I see myself and the world around me. Growing up in a tight-knit community, I learned the importance of family and tradition"(p6).</i>
<p>Finding</p>	<p>Self worth, beliefs and belonging is affected by peer relationships and cultural group involvement.</p>	
<p>6. Artistic Exploration and Self-Expression</p>	<p>These reflections collectively illustrate the transformative role of art in fostering self-awareness, self-expression, and emotional growth. Through activities such as body tracing, sculpting, and drawing, participants engaged in introspective processes that helped them explore how they perceive themselves versus how others might see them. Artistic expression served not only as a tool for visualising physical identity but also as a therapeutic means to confront insecurities, embrace imperfections, and affirm personal uniqueness. By focusing on specific features or interpreting their forms creatively, participants gained insights into their emotional landscapes and self-image, highlighting art’s powerful function in facilitating self-discovery and acceptance.</p>	<ul style="list-style-type: none"> • <i>"Tracing my body outline made me more aware of my physical presence and the space I occupy. It was a powerful experience to see my body's shape on paper, and it made me think about how I view myself and how others might see me...."Creating my face sculpture made me realise how I perceive myself differently than how others might see me. It was a revealing exercise in self-awareness."</i>(p1). • <i>"I noticed I exaggerated certain features in my sculpture, which reflected my insecurities. It made me confront those feelings in a constructive way."</i>(p4).

		<ul style="list-style-type: none"> • <i>"Seeing my face in a different medium helped me appreciate my unique features. It was positive..." (p5).</i>
Finding	Artistic activities such as body tracing and sculpting help one become self-aware, deal with fears, and increase self-acceptance.	
7. Manageability and Symbolic Representation	<p>These reflections collectively highlight the theme of manageability through physical awareness, emotional regulation, and symbolic insight. Participants demonstrate a proactive stance toward self-care, recognising the link between physical wellbeing and identity. The act of visualising the body—through body outlines or symbolic elements like hearts and clouds—serves as a powerful tool for self-reflection, revealing personal growth, values, and inner strength. The imagery of transformation and resilience, such as acknowledging physical changes or representing strength with a lion, illustrates how individuals navigate and make sense of their experiences.</p>	<ul style="list-style-type: none"> • <i>"Seeing my body outline made me reflect on my health and how I take care of myself. It was a wake-up call to pay more attention to my physical well-being" (p10).</i> • <i>"Tracing my body outline made me think about my physical strengths and weaknesses. It was a reflective process that made me appreciate my body more" (p7).</i> • <i>"Seeing my body outline on paper made me think about my physical journey and the changes I've gone through. It was a reflective and empowering experience" (p10).</i>
Finding	Participants were able to detect personal growth, value their physical strengths, and reflect on health. This was due to the body outlines and usage of symbols.	
8. Career, Education, and Personal Fulfillment	<p>This set of reflections highlights the deep interconnection between early life experiences, education, career, and family in shaping personal identity and fulfilment. The participants demonstrate how formative events—whether in childhood, schooling, or professional life—contributed to resilience, determination, and a strong sense of purpose. Education emerges as a</p>	<ul style="list-style-type: none"> • <i>"After school, I studied further and became a teacher. I was a teacher for 41 years. I met another teacher at the school where I worked, and I married him. We bought a house together. After eight years of marriage, I fell pregnant, and two years after that, I fell pregnant again. Both my kids</i>

	<p>recurring theme, not only as a pathway to career success but also as a source of personal growth. These reflections illustrate how understanding one’s life journey through introspection fosters self-awareness, helping individuals appreciate the meaningful links between their past and present, and ultimately enhancing their sense of achievement and fulfillment.</p>	<p><i>gained qualifications after school. I now also have a granddaughter"(p14).</i></p> <ul style="list-style-type: none"> • <i>"Thinking about my school years brought back memories of both joy and struggle. It helped me understand why I am the way I am today" (p5)</i> • <i>"Looking back at my childhood, I can see how certain events influenced my resilience and determination. It was a meaningful reflection"(3)</i>
<p>Finding</p>	<p>Early life experiences, education, and career formed participants’ resilience, purpose, and their sense of fulfilment.</p>	
<p>9. Emotional Connection and Reflection</p>	<p>This analysis reveals that the body mapping activity served as a powerful medium for emotional reflection, self-awareness, and identity exploration. Tracing one's body outline enabled participants to become more conscious of their physical presence, sparking introspection about how they see themselves and how others may perceive them. For many, this was the first time they actively engaged with their physical form as part of their identity, leading to realisations about previously neglected aspects of self-perception.</p> <p>The exercise also encouraged participants to reassess their body image, often challenging internalised criticism and fostering a sense of appreciation for their unique physical features. As a result, many participants reported increased confidence, a sense of ownership, and greater acceptance of their bodies. The activity also catalyzed reflecting on physical health and self-care, indicating a strong link between</p>	<ul style="list-style-type: none"> • <i>"Tracing my body outline made me more aware of my physical presence and the space I occupy. It was a powerful experience to see my body's shape on paper, and it made me think about how I view myself and how others might see me" (p1).</i> • <i>"I realised that I often ignore my physical self when thinking about my identity. This activity helped me connect with my body and acknowledge its role in shaping who I am. It was empowering to take control of how I present myself through this exercise" (p2).</i> • <i>"Seeing my body outline made me reflect on my health and how I take care of myself. It was a wake-up call to pay</i>

	<p>physical awareness and emotional well-being.</p> <p>Moreover, the process helped participants confront insecurities, acknowledge their physical strengths and weaknesses, and gain a sense of grounding and connection with themselves. It supported a holistic view of identity — where emotional, physical, and psychological components intersect — and facilitated personal growth through embodied self-reflection. Overall, the body mapping exercise was a transformative tool, enabling participants to reframe their relationship with their bodies in an affirming and empowering way.</p>	<p><i>more attention to my physical well-being" (p3)</i></p> <ul style="list-style-type: none"> • <i>"This activity made me think about my body image and how critical I can be of myself. Tracing my body helped me appreciate my unique shape and features" (p4).</i> • <i>"I felt a sense of ownership over my body as I traced it. It made me more confident in my physical presence and how I carry myself" (p5).</i>
<p>Finding</p>	<p>Body mapping promoted participant self-awareness and challenged negative body image, and enhanced confidence, self-acceptance, and a greater mind-and-body connection.</p>	

Overall finding

The reflections in Table 24 demonstrate that creative, body-based activities such as body mapping and sculpting serve as powerful tools for self-exploration, enabling participants to connect past experiences with their present identity, confront insecurities, and foster emotional growth. These processes reveal the profound impact of early relationships, cultural background, and social support on self-perception, resilience, and fulfilment across various life domains.

4.4.4 Stakeholder mapping

4.4.4.1 Stakeholder mapping data collection instrument

The stakeholder mapping was conducted with active participation from the stakeholders themselves. Although I conducted initial research to understand the context and gather relevant information, the participants were primarily responsible for identifying the key stakeholders involved. Through guided discussions and probing questions, participants were encouraged to reflect on their experiences and perspectives, highlighting the stakeholders they considered most important. The session was facilitated

by an exchange master's student from Switzerland, who has business analysis experience. This allowed me the freedom to observe the participation in my researcher role. Participants were able to share their insights and opinions of the stakeholders who could play a role in supporting them.

Each participant drew their own map, ensuring that the mapping was grounded in their firsthand knowledge and understanding. They added themselves in the centre and the person with the problem of substance addition, they support was also in the centre. The first activity was to identify the stakeholders who influenced their situation at that point based on an "issue at stake" statement that was aligned to the identified research problem. Thereafter, they had to indicate the connections between stakeholders and themselves and labelled these as strong, neutral, or problematic in terms of interest and power. They then had to add a narrative to explain the relationships. The second part of the stakeholder mapping was to add stakeholders who were not yet included, based on their influence on reaching a desired state formulated by the change objective statement. The participants enjoyed the activities and easily followed the facilitator's instructions.

The images below (Figure 22) illustrate the twelve participants during the stakeholder mapping at the rehabilitation centre. The participants sat around a table with the materials they needed to complete the mapping.



Figure 22: Participant stakeholder mapping

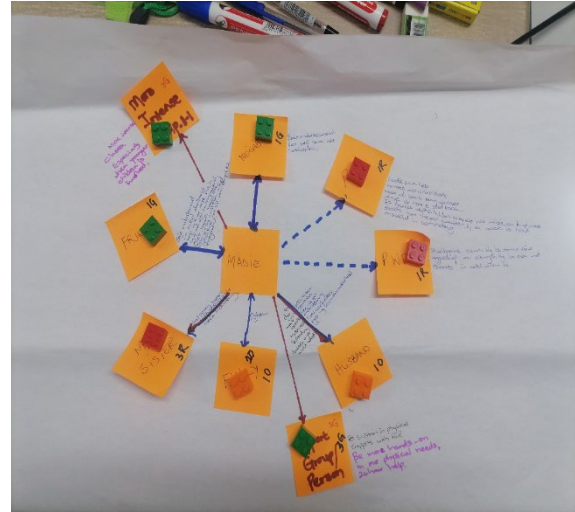
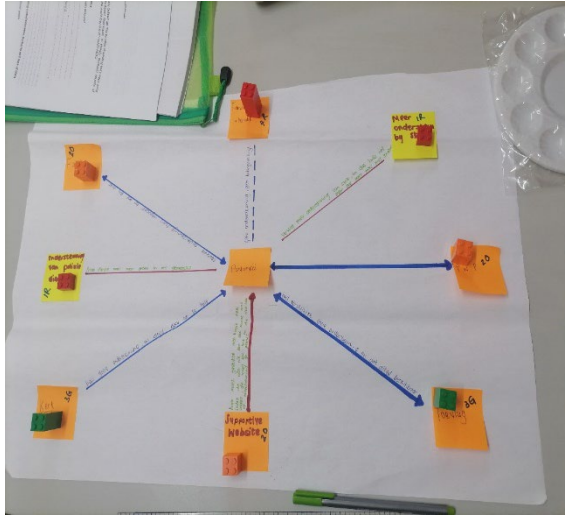


Figure 23: Participant stakeholder mapping

The participants categorised the stakeholders based on their levels of influence, interest, and involvement, contributing to a more authentic and relevant stakeholder map (Figure 23).

Captured data

Table 25: An excerpt of the APs' map data of APs captured for the problem situation

Stakeholder	Situation	Interest	Power	Connection	Arrow	Stakeholder	Narrative
Church	Current	Green	3	Normal	from	Religion	Always there for us, support us
Church	Current	Green	3	Normal	to	Religion	good support and always there to assist
Church	Current	Green	4	Strong	both	Religion	Does a lot for me. Praying helps. Pray a lot to the glory of God
Colleagues	Current	Green	2	Strong	from	Work collegu	They listen and provide advice - sometimes positive but sometimes negative
Community	Current	Red	2	Broken	from	Community	They judge
Community	Current	Red	1	Broken	to	Community	
Daughter	Current	Red	1	Broken	to	Family	My daughter is always negative - she does not want me to help her
Family	Current	Green	1	Normal	from		
Family	Current	Orange	1	Broken	to	Family	I do not get support from them at all. They are drug suppliers
Family	Current	Orange	2	Normal	both	Family	Neutral support ; some negatief and also eiewys
Family	Current	Orange	1	Normal	both	Family	Support me
Family	Current	Orange	2	Normal	from	Family	Not always there for us, just talk a lot
Family	Current	Orange	2	Normal	to	Family	These persons supported me half-heartedly
Family	Current			Normal	both	Family	Very few good family who extends a hand to contributew support
Family - good	Current	Green	4	Normal	to	Family	Always available, pray
Family - good	Current	Orange	2	Normal	both	Family	My family, espeially my sister and her daughter provides good support to me
Family - negative	Current	Green	2	Normal	both	Family	Rejects (Verstoot) no support, blames me
Family - negative	Current	Orange	1	Broken	from	Family	Family wants to halp but have their own problems
Family - negative	Current	Red	3	Broken	from	Family	these people were not intersted when I needed them.
Family - negative	Current	Red	1	Broken	to	Family	Do not receive any help
Family - negative	Current	Red	1	Broken	to	Family	Pain
Family - negative	Current	Red	1	Broken	to	Family	Weak family who pushes the person with the problem down. Weak family who influences a lot

Table 25 above shows a stakeholder analysis concerning an individual's support system, assessing relationships with role players such as church, family, community, colleagues, and social services. It

documents the current and desired situation, interest, and power levels for each stakeholder, along with the nature and strength of their connection, the direction of their support, and a narrative of their role. Perspectives vary from strong, supportive relationships to poor, unsupportive relationships within the family unit and the community.

Additionally, the analysis contrasts current and desired support, highlighting a significant gap between what is experienced and what is needed. Narratives reflect a longing for more active and positive involvement from family, church, and community, and more effective assistance from police and social services. Themes of judgment, partial support, and a need for deeper, more reliable networks emerge, revealing both the individual's social challenges and their hopes for restoration and stronger communal ties (Table 26).

Table 26: An excerpt of the APs' map data captured for the desired situation

Church	Desired	Green	2	Normal	from	Religion	Hope the church can help him with the work he can do for the Lord and that he is unique
Church	Desired	Green	3	Strong	both	Religion	To assist my son to go for rehabilitation and for him to repent (bekeer)
Community	Desired			Normal	from	Community	We must support and help each other more
Community	Desired			Normal	from	Community	Their support
Daughter	Desired	Green	2	Strong	both	Family	Daughter must understand what I also go through
Family	Desired			Normal	both	Family	They love my son, they just are not able to help him
Family	Desired			Normal	none	Family	Would like more support
Family	Desired			Normal	none	Family	
Family	Desired			Normal	to	Family	Support, help
Family	Desired			Strong	from	Family	I would like to have support
Family	Desired			Strong	none	Family	Would like them to do more for the community.
Family - good	Desired	Orange	1	Normal	both	Family	
Family - negative	Desired	Red	3	Strong	both	Family	I want my family to support me
Friend	Desired	Green	2	Strong	from	Social	Support
Friend	Desired			Normal	none	Social	
Husband	Desired			Strong	to	Family	Asks that husband must be involved. Relationship between us must improve
Inter church pray for	Desired	Green	2	Normal	to	Religion	Good relation, supports me
More intense assista	Desired	Green	3	Normal	to	Support	More intense classes. Especially when younger children is involved
Neighbours & Friends	Desired			Normal	both	Social	Neighbours are always there and provide support when I need it. Pray on my behalf. My neighbour (woman); she carries me in her prayers and often provides support
Participate in activity	Desired	Orange	2	Strong	none	Support	Must make yourself available for outside activities
Police services	Desired	Red	1	Normal	none	Safety & sec	Police services should act more in the community
Police services	Desired	Red	1	Normal	none	Safety & sec	The police can do more for our children
Police services	Desired	Red	2	Normal	none	Safety & security services	
PwP	Desired	Red	1	Strong	none	PwP	
PwP	Desired			Normal	both	PwP	Is really looking for support - desires it
PwP	Desired			Normal	none	PwP	That he receives help and salvation

The data was analysed by grouping the sixty-nine stakeholders, mentioned by the participants, into related stakeholder groups. Eleven stakeholder groups were derived indicated in the table below.

Table 27 illustrates the derived stakeholder categories based on the stakeholders mentioned by the APs.

Table 27: Stakeholder categories

Stakeholder categories	Count of Participant
Stakeholder	
Community	2
Community	2
Educational facility	2
School	1
Teachers	1
Family	26
Daughter	1
Family	7
Family - good	2
Family - negative	8
Father	2
Husband	2
Sister	3
Son	1
PwP (Person with the Problem)	12
PwP	12
Rehabilitation facility	3
Religion	7
Church	3
God	1
God - Church	1
Pray group - friends	1
The Lord	1
Safety & security services	3
Police services	3
Social	8
Friend	6
Neighbour	1
Neighbours & Friends	1
Social worker	2
Social workers	1
Social workers (FAMSA)	1
Support	2

Road R.C.	1
Self-help search	1
Work colleagues	2
Colleagues	1
Work	1
Grand Total.	69

These categories were further combined to conclude with seven category groups. Refer to the table below (Table 28).

Table 28: Seven category groups derived from stakeholder mapping

	Stakeholder groups	Stakeholder group	Interest	Power	Count	%
1	Community	Community	3	4	17	2,89855072
3	Family	Family	2	5	25	36,2318841
4	PwP	PwP	1	4	12	17,3913043
7	Social	Social	4	3	8	11,5942029
8	Social worker	Professional	3	5	2	2,89855072
9	Support	Support	5	2	2	2,89855072
10	Work colleagues	Work	3	2	2	2,89855072
	Grand Total				69	100

The radar chart (Figure 24) below provides a visualisation of the multivariate data.

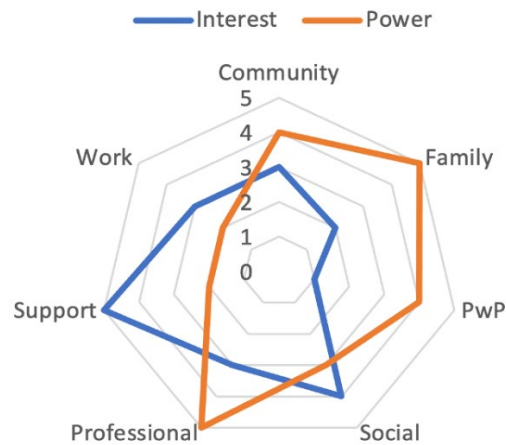


Figure 24: Stakeholder interest and power

Below is a bubble diagram to visualise the relationships between the different stakeholder groups. The size of the bubble indicates the importance of that stakeholder group.



Figure 25: The relationships between the different stakeholder groups

It is clear from the above diagram (Figure 25) that the person with the problem, (as the person with the substance addiction problem) has substantial power over the APs and shows little interest in their situation. Family has the most power but relatively low interest. The community is perceived as powerful but with neutral interest. The social and support stakeholders show the most interest but have limited power.

4.4.4.2 Stakeholder mapping data

Figure 25 also provides a consolidated view of stakeholder mapping for APs, highlighting key relationships and their impact. The family emerges as the most significant stakeholder, with a dual role of support and distress. While some family members, such as sisters, offer crucial support, others, such as fathers, are perceived negatively, illustrating complex dynamics of family. The community, police, and social workers are seen as largely unsupportive, pointing to gaps in external and institutional support systems. The rehabilitation centre, however, is positively perceived and holds potential as a key provider of peer-led support services. Religion plays a vital role, with APs drawing strength more from personal spirituality than from church members. This thematic analysis underscores the need for holistic interventions that

address family dynamics, strengthen external support mechanisms, and enhance spiritual and social resources to improve the resilience and wellbeing of APs.

4.2.1.1. Stakeholder mapping analysis

Table 29: Stakeholder mapping themes derived

Stakeholder mapping themes
1. Mixed family influences
2. Lack of community and institutional support
3. Potential of the rehabilitation centre as a key support service provider
4. Spiritual support over social support

Theme 1: The Family

The family of the APs emerges as the most important stakeholder as indicated by the frequent mentions by the participants. It is clear from the combined map in the figure below that, for the current situation, the APs family is the most important stakeholder (the size of the nodes indicates the number of time that stakeholder was mentioned by the APs). Within that there are mixed connections with the father which are shown as very negative. Some APs indicated that their sister is very supportive of them. The family is considered both bad and good, with the bad ones contributing to the problem and the goods ones providing support therefore having a dual role.

Finding

The most significant stakeholder is the APs' family, who serve as a source of both support and anxiety. Some family members, like sisters, offer vital emotional support, while others, like fathers, are regarded negatively and create difficulties. This demonstrates how complex and diverse the familial ties that affect the APs are.

Theme 2: Community and External Support

It is noteworthy to mention that, the community, police (safety) and social worker are perceived as not supportive. Looking at the stakeholders indicated, it is clear that their support (or lack thereof) is from their immediate environment with little involvement from persons or entities outside the situation. The community is generally perceived as unsupportive, indicating a lack of communal solidarity or effective neighbourhood support systems. Both the police (in terms of safety) and social workers are seen as not supportive. This suggests a gap in formal support mechanisms that are supposed to provide safety and assistance to communities.

The community's perceived lack of support, along with the police and social workers, points to a broader issue of inadequate external support systems. This gap can exacerbate the challenges faced by the APs, leaving them to rely more heavily on family and specific government support services, such as the rehabilitation centre in this case.

Finding

The APs view social workers, the police, and the community as unsupportive, indicating a serious lack of official and informal external support networks. The APs are left vulnerable due to a lack of social and safety support as well as a lack of communal solidarity, which makes them increasingly dependent on their families and certain government programmes, such as rehabilitation facilities, to help them deal with their problems.

Theme 3: Support Services

Toevlug is perceived as a supportive entity, which could mean that they could become the service provider of a possible peer support lead service. The positive perception of Toevlug suggests that it plays a crucial role in the APs' coping strategies. Although the church (religion) is indicated as very supportive, it is mostly their personal connection to a higher power and not so much the people in the church who offer the support. This indicates that the spiritual aspect of religion offers more comfort than the social aspect provided by church members.

The positive perception of Toevlug suggests that it could be further developed or utilised as a key provider of support services. This could involve expanding its role or increasing its accessibility to ensure it meets the needs of the APs effectively.

Finding

According to the APs, Toevlug is an essential source of support, indicating that it has the ability to take the lead in offering peer support services. Although the church and religion are respected, support comes more from individual spirituality than from churchgoers. This highlights the significance of Toevlug's involvement in coping mechanisms and offers opportunities to improve and broaden its support offerings to better serve the needs of the APs.

Theme 4: Spiritual Support over Social Support

The strong support derived from personal religious beliefs rather than church members underscores the importance of spiritual well-being. This finding suggests that interventions to enhance personal spirituality might be beneficial.

Finding

The importance of spiritual wellbeing is made evident by the significant support that comes from one's own religious convictions rather than from churchgoers. This implies that the APs may benefit significantly from programmes that foster personal spirituality.

Summary findings of the stakeholder mapping

According to the stakeholder mapping, the APs' most complex and influential support system is their family, which presents both major obstacles and essential emotional support. A significant gap in official and informal safety and social networks is revealed by the perception of external support from the community, police, and social workers as being generally insufficient. While spiritual well-being, which is based on individual beliefs rather than formal religion, emerges as a crucial coping resource, specialized support programmes like Toevlug are seen favourably and indicate promise as important sources of peer support. All of these findings point to the need to improve external formal support systems, increase trustworthy peer support services, integrate spirituality-focused therapies, and strengthen familial support dynamics to better address the holistic needs of the APs.

4.4.5 Diaries

4.4.5.1 Diaries data collection instrument

The diary data collected through the structured open-ended questions offers a comprehensive and reflective account of the participants' lived experiences while interacting with individuals struggling with substance addiction. By detailing specific situations (Item 2) and their contexts (Item 3), the data provides insight into the immediate circumstances of the experiences. Participants are prompted to explore their reactions and coping mechanisms (Item 4) and delve into the emotional impact of these interactions (Items 5-6). The questions further encourage reflection on the broader consequences, such as changes in relationships (Item 7) and the outcomes of the situations (Item 8). Additionally, the diary captures personal growth and self-awareness (Item 9) while identifying gaps in support systems (Item 10). By offering space for participants to narrate their lived experiences and timeline (Items 11-12) and assess their emotional states (Item 13), the diary data holistically captures the multifaceted nature of their

journeys, enabling a rich qualitative analysis of the interplay between addiction and interpersonal dynamics. Figure 26 shows examples of some of the frontpage covers of the diaries.



Figure 26: Exemplar of Diary frontcover

Table 30: Questions in the diaries - lived experiences in particular situations for needs analysis

Item	Question
1	Please indicate the day of the week.
2	Please describe a specific experience/situation where you were affected by the behaviour of the person with the addiction problem.
3	Where were you when the situation happened?
4	How did you handle this situation and also indicate why?
5	How did the situation make you feel?
6	Why did you feel this way?
7	Please describe how the situation affected your relationship with the person with the substance addiction problem.
8	What was the outcome of the situation?
9	What did you learn (about yourself) from the experience?
10	How do you think you could have been supported to deal with the situation?
11	How would you describe your experience?
12	Lived experiences (Timeline)
13	Happy/OK/Sad?

4.4.5.2 Diaries data

The diary data provided the participants' deeply personal and emotional experiences regarding their interaction with a person struggling with substance addiction as seen in Figure 27. The participant describes a situation where their son's addiction behavior affected them, detailing their emotional response and sense of helplessness. They note feeling heartbroken and betrayed due to their son's mistrust and manipulation, which deeply impacted their relationship and overall family dynamics. The participant reflects on their coping mechanisms, such as attempting to manage the situation privately while also grappling with the recurring challenges. Additionally, they reveal insights gained about themselves, such as learning to protect their emotions and recognising the need for self-preservation. This reflective entry underscores the emotional toll addiction has on loved ones, while also emphasizing the resilience and self-awareness developed in response to these challenging experiences.

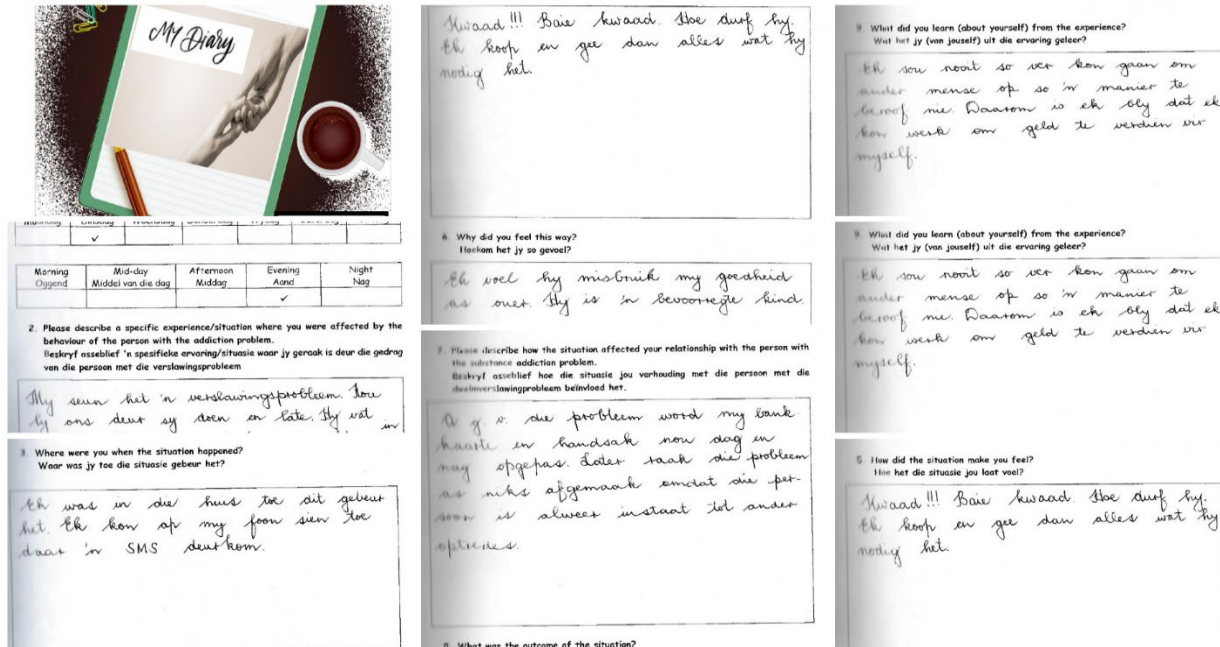


Figure 27: Diary snapshot

4.4.5.3 Diaries analysis

The diary of the data presented below in Table 31 provides a structured analysis of participants' emotional responses, relational impacts, and personal reflections in situations involving individuals struggling with substance addiction. The data reveals recurring themes of fear, uncertainty, and hurt, reflecting the emotional burden experienced by participants. For instance, feelings of betrayal, danger, and loss of trust are highlighted, showcasing the destabilising effects on relationships and personal well-being. The relational dynamics include elements of discord and chaos, as participants describe how addiction behavior created wedges, escalated conflicts, and strained trust within their families. Despite the challenges, the data also captures moments of personal growth and emotional reflection, during which participants recognise their resilience, accountability, and ability to prioritise their emotional well-being. For example, individuals learned the importance of setting boundaries, practicing self-protection, and managing their emotions as means of coping. Furthermore, while many outcomes reflected vulnerability and distrust, others noted positive realisations, such as faith and tranquility, indicating a dual narrative of struggle and strength. This diary analysis provides a holistic view of the emotional toll, relational consequences, and personal insights gained from navigating the complexities of addiction within close relationships.

The coding process involved systematically analysing the participants' open-ended responses to identify recurring themes and patterns. First, the researcher carefully read through each diary entry, focusing on the emotional responses, relationship dynamics, and personal reflections described by the participants. The researcher then assigned codes to the data based on key phrases or sentiments expressed, such as “hurt”, “fear”, “uncertain”, or “financial impact”, to capture the core meaning of each statement. These initial codes were grouped into categories to reflect broader thematic areas, such as Sadness and Emotional Impact, Conflict and Relational Discord, Positive or Negative Outcomes of Responses, and Emotional and Personal Growth. To enhance clarity and consistency, the researcher ensured that similar responses were grouped under the same sub-themes; for example, “fear of danger” and “uncertain feelings” were categorised under Fear and Uncertainty, while relational struggles such as “wedges” and “chaos” were grouped under Relationship Discord. Additionally, the researcher highlighted outcomes and lessons learned to capture the participants' reflections and growth. This systematic approach to coding allowed me to organize the data into meaningful themes, providing a clear framework for understanding the participants' lived experiences and emotional journeys.

Table 31: Snapshot from coding

P-Participant	Why did you feel this way? How/when has it gone?	Code	Category Sub-theme Theme	Please describe how the situation affected your relationship with the police with the officers' addition problem. Describe whether the situation is resolving or, the process isn't...	Code	Category Sub-theme Theme	P-Participant	What's the outcome of the situation? What was the result?	Code	Category Sub-theme Theme	P-Participant	What did you learn about yourself from this experience? What do you think you did well at? What do you think you did poorly at?	Code	Category Sub-theme Theme	P-Participant	How do you think you would have been different if you had not had this experience? How do you think you would have been different if you had not had this experience?
	Open ended response			Open ended response			Open ended response				Open ended response				Open ended response	
1	Felt in danger because these are gangsters	afraid	Fear and Uncertainty	1 Our lives are in danger	Endangered	Coerber and Emotional Responses	1 I prayed the whole day	devoted	Positive Outcomes or Responses	1 I have faith that there is power in prayer but I know that God alone is not going to save us.	faith	Emotional and Personal Growth	1 If police services were known they could have helped us. The political parties are not always here to save us but need feedback and want me to put my life on the line I cannot do that. I need more support.			
	didn't know how to feel	uncertain	Fear and Uncertainty	it drives a wedge between us	Alienation	Relationship Strain and Discord	I cannot approach the police services because they are also corrupt.	distrustful	Negative Outcomes or Responses	And my son will have to face the consequences.	realization	Emotional and Personal Growth				
2	hurt because I accused him	hurt	Negative Impact on Self	he pushes me away	Alienation	Relationship Strain and Discord	No one can protect us. The atmosphere is so intimidating that it affects everyone.	vulnerable	Negative Outcomes or Responses	I cannot always protect him.	accountability	Emotional and Personal Growth	Thank you, Charrel for always listening to me that was a great relief.			
	bad because he is my child	bad	Negative Impact on Self	The situation caused many problems.	Chaos	Relationship Strain and Discord		tense	Negative Outcomes or Responses	It was better for me to be calm.	Vulnerability	Emotional and Personal Growth	I don't always have data to talk to police but when you call me back it is such a relief because I feel my family is at least I feel like I am going okay and no one understands me.			
3	robbed financially because he made a big hole in my finances	robbed from finances	Financial Impact	He had to blame someone and because I argue with him, he feels I am not helping him.	Scapegoating	Coerber and Emotional Responses	Then I might talk what's bothering him now, then he'll say he's looking for so much money to buy in order to create a better atmosphere. I will give him the money and so the household becomes better again.	revelation	Negative Outcomes or Responses	I learned that motherly love is strong, pure and unique.	Tranquility	Emotional and Personal Growth	Don't really know because I don't know if a third person would be a good idea. I would first ask my family for help and support.			

Themes derived from the diaries were as indicated in Table 32.

Table 32: Themes derived from the diaries

Themes	Theme description	Participant quotation	Theme finding
1. Family conflict and tension	This theme highlights the daily struggles, arguments, and emotional clashes within the family, particularly involving the addicted individual.	<ul style="list-style-type: none"> • <i>'Gangsters tried to kill my son. I had to intervene...This morning there was a struggle to get Duvanhe awake for school...he started insulting that he is not our child...'[p1]</i> • <i>'He spoke more loudly and insulted his sister...'[p14]</i> 	Due to the addict's disruptive behavior, family ties are often emotionally charged and strained, resulting in verbal abuse and continuous arguments.
2. Addiction and Its Consequences	This theme shows the effects of addiction on the family, including denial, theft, and escalating problems.	<ul style="list-style-type: none"> • <i>'When we found out my son had an addiction problem...Items of value disappeared. He just denied it...Large amounts of money have now disappeared...Thousands of rands were drawn...He takes our bank cards then withdraws money...'[p14]</i> 	Addiction results in denial and deteriorating family issues, such as theft and increasing financial and emotional strain.
3. Financial Strain and Theft	The repeated instances of financial theft and loss of valuable items due to addiction are central to this theme.	<ul style="list-style-type: none"> • <i>'Items large and small to disappear...Household items and family items disappeared...'[p14]</i> • <i>'My colleague couldn't get to work because her brother stole her car keys...'[p16]</i> 	Addiction leads to financial theft as well as regular loss of items, which causes serious problems and disruption in the home.
4. Emotional Impact and Distress	This theme shows the emotional toll on family members, including shock, distress, and the impact of seeing loved ones in pain.	<ul style="list-style-type: none"> • <i>'I sat on my bed and prayed for him...'[p1]</i> • <i>'I was beyond shocked. So many questions went through my mind...'[p3]</i> • <i>'My colleague arrived at work very upset...she was in tears and it upset me a lot...'[p16]</i> 	As they witness their loved ones suffer and behave detrimentally, family members feel an immense amount of emotional grief, shock, and helplessness.
5. Violence and Safety Concerns	Incidents of violence, threats to safety, and physical confrontations	<ul style="list-style-type: none"> • <i>'Gangsters tried to kill my son...'[p1]</i> 	There are continuous risks to safety and violence, including

	between APs and the addict and also the addict and police or other individuals are covered under this theme.	<ul style="list-style-type: none"> • <i>'The police came to report that they had arrested the child...'</i> [p1] 	physical altercations between the addict, family members, law enforcement, and community members.
6. Interpersonal Relationships and Trust Issues	Trust issues and conflicts with friends, family, and others due to the actions of the addict are central to this theme.	<ul style="list-style-type: none"> • <i>'On a Saturday night he had a falling out with his best mate...'</i>[p14] • <i>'My brother and I had an argument the night before...'</i>[p22] 	Addiction destroys trust and causes conflicts not only within the family but also with friends and broader Social networks.
7. Legal Problems and Incarceration	This includes legal issues, arrests, and incarceration resulting from the addicted individual's behavior.	<ul style="list-style-type: none"> • <i>'Her brother was locked up over the weekend...'</i>[p16] • <i>'The police came to report that they had arrested the child...He was caught with drugs by the police...'</i>[p14] 	Addiction often ends in arrests, jail imprisonment, and legal issues, which further complicates family relationships and stability.
8. Coping and Prayer	The reliance on coping mechanisms such as prayer and spiritual support is highlighted in this theme.	<ul style="list-style-type: none"> • <i>'I sat on my bed and prayed for him...'</i>[p1] 	In order to cope with the stress and psychological strain brought on by addiction, many family members turn to prayer and spiritual activities as important coping mechanisms.
9. Impact on Extended Family and Friends	This theme captures how the addiction problem affects not only immediate family members but also extended family and friends.	<ul style="list-style-type: none"> • <i>'My colleague arrived at work very upset...she is a very good person with a good heart and to see her hurt...'</i>[16] 	Addiction has detrimental impacts on friends and extended family members in addition to the immediate family.
10. Community and External Influences	This theme looks at the broader community and societal influences that intersect with the personal experiences of the family	<ul style="list-style-type: none"> • <i>'At one point marijuana was legalised...'</i>[p14] 	Developments in drug legislation and the social environment are examples of broader societal and community issues which interact with and impact the

			family's experience of addiction.
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The researcher targeted 12 participants for collecting the data instruments in Phase 1. As shown above, more instruments than originally targeted were collected for all types, except for the diaries. The study was therefore not compromised, as more instruments were collected overall.

4.5 Thematic analysis of combined qualitative data

The development of themes is a critical process in qualitative research, as it allows for the synthesis of data into meaningful and actionable insights. This process begins with data collection through various methods, such as focus groups, interviews, mapping exercises, and participant diaries, which provide rich and diverse perspectives. The raw data is then subjected to coding, where significant statements or observations are identified and labeled. These codes are grouped into categories that capture recurring patterns or ideas, such as emotional expression, community support, or family influence. Through synthesis, these categories evolve into overarching themes that encapsulate the core findings of the study. For instance, insights from body mapping activities highlighting emotional intensity and self-perception might converge with diary entries emphasising family dynamics and community challenges to form a theme like “The Role of Family and Community in Emotional Resilience”. The process is iterative and involves constant comparison to ensure the themes are grounded in the data. Validation steps, such as participant feedback and peer review, further refine the themes to enhance credibility and ensure they accurately represent the participants' experiences and perspectives. This systematic approach enables a comprehensive understanding of the phenomena under investigation, providing a robust foundation for analysis and discussion.

The combined qualitative themes highlight the multifaceted experiences and challenges faced by APs dealing with substance addiction. These themes span several dimensions, including addiction's consequences, community and institutional support, family dynamics, and individual coping strategies. Sub-themes emphasise issues such as financial strain, social networks, family tension, self-identity, and emotional well-being. They also underscore the importance of personal development, spiritual support, and lived experiences in fostering resilience and adaptation. Together, these themes provide a comprehensive framework for understanding the complex interplay of factors influencing APs' lives, offering insights into their needs and potential avenues for effective intervention and support.

Table 33 presents a synthesis of qualitative data drawn from interviews (I - orange), body mapping activities (B - green), stakeholder insights (S - blue), and diaries (D - grey) as indicated in the first column. The table consolidates individual themes into eight broader combined themes to illustrate recurring patterns in participants' narratives. These themes are further categorised by level of analysis—ranging from the individual self (Me) to interpersonal relationships (Me+), and community or systemic levels (Me++). The combined themes reflect key areas such as addiction consequences, community support, family dynamics, lived experience, self-identity, self-development, social support dynamics, and wellbeing - offering an integrated view of how substance use and recovery are experienced within personal, familial, and societal contexts.

The combined themes will be discussed in Chapter 6, subsection 6.2.

Table 33: Combined qualitative themes

Data source	Theme	Combined Theme	Level of analysis
D2	2. Addiction and Its Consequences	Addiction consequences	Me+
D3	3. Financial Strain and Theft	Addiction consequences	Me+
I1	1. Challenges in the Environment	Community support	Me++
D10	10. Community and External Influences	Community support	Me++
S2	2. Lack of Community and Institutional Support	Community support	Me++
I3	3: Service delivery	Community support	Me++
S3	3. Potential of Toevlug as a Key Support Service	Community support	Me++
B5	5. Social Support Networks and Community Influence	Community support	Me++
D5	5. Violence and Safety Concerns	Community support	Me+
D7	7. Legal Problems and Incarceration	Community support	Me++
D1	1. Family Conflict and Tension	Family dynamics	Me+
B1	1. Family Influence and Self-Perception	Family dynamics	Me+
S1	1. Mixed family influence	Family dynamics	Me+
D9	9. Impact on Extended Family and Friends	Family dynamics	Me+
I11	11: Sense of Meaning and Purpose	Lived experience	Me
I12	12: Reflection on Life and Experiences	Lived experience	Me
B3	3. Resilience and Coping Strategies	Lived experience	Me
I7	7: Adaptability to Change and new situations	Lived experience	Me+
I8	8: Coping mechanisms	Lived experience	Me
D8	8. Coping and Prayer	Lived experience	Me

B4	4. Self-Discovery and Identity Construction	Self identity	Me
I5	5: Personal Identity and Self-Reflection	Self identity	Me
B7	7. Manageability and Symbolic Representation	Self identity	Me
I13	13: Personal Fulfillment and Control	Self-development	Me
B6	6. Artistic Exploration and Self-Expression	Self-development	Me
B8	8. Career, Education, and Personal Fulfillment	Self-development	Me
I4	4: Social acceptance and relationships	Social support dynamics	Me+
S4	4. Spiritual Support over Social Support	Social support dynamics	Me
I6	6: Spiritual and Religious Beliefs	Social support dynamics	Me
D6	6. Interpersonal Relationships and Trust Issues	Social support dynamics	Me+
I9	9: Social Support	Social support dynamics	Me+
I10	10: Emotional Wellbeing and Stability	Wellbeing	Me
I2	2: Disposition (life orientation)	Wellbeing	Me
B2	2. Emotional Expression and Vulnerability	Wellbeing	Me
D4	4. Emotional Impact and Distress	Wellbeing	Me
B9	9. Emotional Connection and Reflection	Wellbeing	Me

4.6 Challenges experienced during conducting research

The researcher encountered several challenges within the research environment. One significant challenge was the complexity and depth of the collected qualitative data. The abundance of information from interviews, focus groups, and diaries required meticulous attention to detail and careful organisation to ensure that no valuable insights were overlooked. Additionally, the researcher faced the challenge of managing and integrating diverse perspectives and experiences shared by the participants, as each individual's lived experience with substance addiction was unique. Another challenge arose from the emotional nature of the research topic, as participants discussed sensitive and personal experiences related to addiction. The researcher had to approach the data with empathy and sensitivity, ensuring that the participants' wellbeing and confidentiality were protected throughout the analysis process. This aspect was extremely challenging, especially when following ethical guidelines as a researcher was not sufficient, and I had to draw on my experience as a professional nurse to mediate the emotional responses.

Technical challenges also surfaced during the quantitative data analysis. Ensuring data accuracy and cleaning the data to eliminate errors and inconsistencies demanded meticulous attention. Furthermore,

time constraints and limited resources posed challenges to conducting an in-depth analysis. The researcher needed to balance the desire for thoroughness with the practical constraints of the study's timeline and a heavy teaching workload.

Despite these challenges, the researcher navigated the data analysis process skilfully and successfully. The iterative nature of the analysis allowed for continuous refinement and validation of findings, ultimately leading to valuable insights that contributed to a deeper understanding of the complexities surrounding substance addiction and its impact on individuals and families. The lessons learned from overcoming these challenges will undoubtedly inform future research endeavors and enhance the quality and depth of research outcomes.

4.6.1 Data collection

Qualitative and quantitative methods were used to capture the lived experiences of APs. In-depth, semi-structured interviews were conducted one-on-one to create a safe space for participants to share their narratives in a confidential and supportive environment. The focus group discussions complemented this , encouraged dialogue and interaction, and explored experiences around addiction.

The quantitative data was collected by structured questionnaires, which collected demographic information. It was designed for easy completion and therefore ensured reliable data collection and has not placed any burden on the participants. For insight, participants were given take-home diaries in which they recorded their daily experiences, coping strategies and challenges over time. The diaries posed as valuable longitudinal data and a more personal view of the participants' daily lives.

The entire process was conducted with care and sensitivity. The researcher recognised the vulnerability of participants and the emotional weight that the subject matter carries. Ethical principles such as confidentiality, anonymity, and informed consent, were rigorously maintained. The combining of these methods, allowed for breadth and depth to the study as it created a more nuanced understanding of addiction and its impact on APs.

4.6.2 Reflecting on the data collection process

Reflecting on the data collection process, the usage of multiple methods deepened the study. Detailed, personal accounts that highlighted emotions and lived realities was provided by the interviews, while the focus groups enhanced interactivity and drew out collective themes as well as fostering a sense of

solidarity among participants. The questionnaires enriched the qualitative data with clear demographic insights, and the take-home diaries proved valuable for capturing changes, reflections and patterns in the participants' daily lives.

Effective as it may be, the process was not without challenges. A few participants found it challenging to recall certain incidents, while some found it difficult to discuss sensitive issues. Therefore, creating a comfortable environment, with safety and trust was crucial in encouraging openness and honesty. The role of the researcher extended well beyond data collection as it required careful facilitation, reassurance, and safeguarding of the wellbeing of participants.

No less important was the researcher's reflexivity to recognize how personal assumptions and biases might influence interactions and interpretations. The integrity and authenticity of the data were preserved as the researcher critically reflected on these dynamics.

In essence, the data collection was a dynamic and evolving journey. The richness of qualitative insights, accompanied by demographic and longitudinal data, allowed for a deep exploration of the complexities of substance addiction. Apart from presenting findings, the process itself underscored the importance of trust, empathy, and ethical sensitivity when working with vulnerable populations.

4.7 Data analysis summary

To ensure depth and reliability, both qualitative and quantitative sources were integrated as the analysis of the data was carried out systematically. Qualitative material from interviews, focus groups, and diaries was examined using thematic analysis. This process involved identifying recurring patterns, themes, and categories that shed light on the lived realities of participants and the ways they navigate substance addiction within their families.

Several strategies were employed to strengthen the credibility of the findings. Participant validation allowed for credibility, accuracy, and trustworthiness of contributions and triangulation compared data across different methods and sources to validate results. The researcher maintained reflexivity throughout, carefully assessing subjective presumptions and opinions that might influence interpretation. This reflective approach promoted openness and protected the analysis's integrity.

In the end, the study revealed a number of significant insights that captured the complexity of the participants' experiences. To ensure the participants' voices remained at the centre of the story, these

findings were presented with vivid examples and supporting quotations. Systematic, analytical, and reflective, this balanced approach allowed the study to honour the authenticity of individual narratives while demonstrating significant patterns.

4.8 Phase 1 summary

Phase one highlighted the connection between stressors, situational factors, and resistant resources in the lives of the APs while supporting persons with a substance addiction. Together, these factors provide a holistic understanding of the challenges APs face and the support that enables resilience.

Family conflict, financial strain, and emotional exhaustion emerged as significant burdens and were shaped and further intensified by issues such as stigmatisation, limited access to care, and the influence of community dynamics. Regardless of these challenges, many APs gained strength through resistant resources like strong family and peer networks, faith and spiritual practices, and institutional or community-based interventions, which offered a sense of stability and hope.

This phase of findings highlights that APs' experiences cannot be understood in isolation, as their struggles and resilience are rooted in broader social, cultural, and community contexts. The data reveal the importance of comprehensive interventions that address both the obstacles and perseverance found in the lives of APs.

4.9 Summary of key findings

This section recaps the key findings from the previous chapter, summarising the results to remind the reader of the study's aims and achievements. The study sought to explore the social support needs of APs living with or supporting individuals experiencing substance addiction. Specifically, it aimed to identify the primary stressors they face, the situational factors that influence their experiences, and the protective resources that enable resilience. The findings revealed that APs encounter a range of stressors, including emotional distress stemming from family conflict, financial strain due to addiction-related expenses, and the psychological burden of supporting loved ones in crisis. These stressors are further compounded by situational factors, such as a lack of community and institutional support, geographical barriers to accessing specialised care, and the pervasive stigma associated with substance addiction, which often leads to isolation. Despite these challenges, the study identified several resistant resources that help APs navigate their circumstances. Key resources include strong family and peer support networks, faith and

spiritual practices, and access to rehabilitation and counseling services. Community initiatives also emerged as valuable sources of encouragement and connection, fostering collective resilience. These findings provide a foundation for understanding the complex and multifaceted needs of APs, emphasising the importance of holistic, person- and family-centred interventions tailored to their unique contexts.

4.10 Chapter Conclusion

In conclusion, this chapter has provided an in-depth analysis of the key findings, focusing on the stressors, situational factors, and resistant resources that shape the social support needs of APs living with or supporting individuals experiencing substance addiction. By examining these dimensions, the chapter has highlighted the complex and multifaceted nature of the challenges faced by APs, as well as the various coping mechanisms and support structures that foster resilience. The findings underscore the importance of integrating a comprehensive, person- and family-centred approach to intervention, recognising the diverse needs of APs and the importance of a supportive environment. The chapter also sets the stage for further discussions on practical applications and policy recommendations, paving the way for more targeted support services for APs. Ultimately, the insights from this analysis deepen understanding of AP experiences and provide valuable directions for future research and intervention development.

CHAPTER 5: DIGITAL INTERVENTION DESIGN

5.1 Introduction

Phase 2 of the study takes a pragmatic philosophical stance, focusing on practical outcomes and the real-world applicability of research findings. Pragmatism is suitable for intervention research because it emphasises context-specific solutions and flexibility in methodology. These are vital for addressing the complex and multifaceted needs of APs. This phase focuses on designing and evaluating peer-led online social support interventions, integrating participant feedback and reflections to tailor the interventions to the lived experiences of APs. During this stage, an abductive research methodology is used - this combines factual data and qualitative insights to provide explanations and create solutions. The intervention is regularly improved to serve the APs better and through the application of IDR, which combines theory with real-world, practical situations, support systems may be developed systemically.

The findings of the first phase provide insights into the AFPs' experiences of supporting a person with a substance addiction problem in a particular compromised context. As part of the plan and prepare phase, a pilot was conducted to build confidence in using a peer-to-peer group on social media based on their social support needs. The lessons learnt provide a solid base for planning the co-design sessions.

Each phase of the intervention co-design process is discussed next based on the goals, activities, and outputs identified in Chapter 3.

5.2 Plan and prepare Peer-to-Peer Social Support using Social Media

Table 34: Stage 1 activities and expected outputs for online support development

Stage 1	Activities	Expected Output
<ul style="list-style-type: none">• Understand the context to enhance support.• Explore current Social support options.• Decide on suitable online platform and media affordances.	<ul style="list-style-type: none">• Conduct a needs analysis based on contextual influences on participants.• Select a suitable platform and relevant affordances• Decide on a recruitment strategy.	<ul style="list-style-type: none">• Identified stressors, resources, and social support needs.• A suitable platform.• List of suitable social media affordances.• Recruitment strategy.

5.2.1 Needs analysis

An Online Peer-led Social Support Group (OPSSG) is the proposed intervention for APs who support people with drug dependency. It was developed using the findings of the requirements analysis carried out in

Phase 1 of this project as a fundamental basis (Table 34). Understanding the contextual reality and particular difficulties experienced by APs, especially in underprivileged communities, was the goal of this exercise. Identifying stresses like financial hardship, mental health issues, and complicated family relationships, as well as evaluating gaps in the current support services, were among the activities. The requirements study also assessed users' preferences for online communication as well as the technological prerequisites needed to create a welcoming and easy-to-use environment. A thorough grasp of the practical and emotional support requirements of APs, the choice of an acceptable web platform with the right media affordances, and the creation of a successful recruitment campaign were the results of this stage. By addressing the social wellbeing of APs and adhering to the fundamental ideas of Antonovsky's SoC framework, which promotes resilience and meaningful participation, this comprehensive needs assessment ensured that the intervention was contextually relevant.

Seven categories emerged through a thematic analysis of participant chats during the BEACON OF HOPE pilot study, which was guided by Braun and Clarke's (2006) framework for identifying, analysing, and reporting patterns within qualitative data. Messages and interactions were systematically reviewed to detect recurring themes that reflected participants' concerns, needs, and preferences. From this process, categories were developed from the data rather than being predetermined. This ensured that they were rooted in the lived experiences of members. For example, *Understanding Context* was drawn from welcome messages and group guidelines that emphasised confidentiality, respect, and inclusivity. *Identifying Stressors* emerged from the members' discussions about financial strain, emotional struggles, and family conflict. *Assessing Support Gaps* reflected frustrations with limited resources and dependence on peer advice, and *Assessing User Preferences* was informed by polls and feedback on the preferred support formats, such as flexible check-ins. Concerns around privacy and ease of use informed the category of *Technological Requirements*, while repeated emphasis on WhatsApp's accessibility informed the category of *Platform Choice*. Finally, *the Recruitment Strategy* emerged from chats about personal invitations and the use of social media for engagement. These categories, illustrated in Table 35, therefore represent evidence of a needs analysis directly derived from participant engagement, providing a structured foundation for the design of the proposed intervention.

Social media affordances

The selection of a suitable online platform and social media affordances was guided by the results of the thorough requirements analysis conducted in Stage 1 of the intervention design process to understand

participants' stressors, resources, and social support needs. Features including real-time messaging, multimedia sharing, private group functionality, and moderated discussions were shown to be crucial for developing a secure, encouraging, and interesting environment for APs. These affordances preserve anonymity and accessibility while allowing individuals to exchange experiences, access resources, and get emotional affirmation. By purposefully matching platform features to participants' contextual realities, the intervention is rendered inclusive and responsive, encouraging immediate active participation and the development of trust.

Table 35: Evidence of needs analysis derived from participant chats in the BEACON OF HOPE pilot study

Category	Evidence from Chats	Related Chat Examples
Understanding Context	Welcome messages, informed consent, and group guidelines addressed confidentiality, respect, and inclusivity.	Messages from 2024/06/13 welcoming members and explaining group purpose.
Identifying Stressors	Members shared experiences about financial strain, mental health struggles, and family conflicts (e.g. Kim's brother demanding money, Courtney's uncle smoking drugs at home).	Messages from 2024/06/19 discussing financial stress, emotional strain, and disrespectful behaviour from addicted family members.
Assessing Support Gaps	Discussions highlighted lack of formal support, frustrations with limited resources, and reliance on peer advice (e.g., polls on needed resources).	Polls from 2024/06/24 asking about needed resources like therapy, financial aid, and online support.
Assessing User Preferences	Polls and member feedback showed preferences for asynchronous chat, emotional check-ins, and practical sharing.	Activity feedback on emotional check-ins and members preferring flexible chat formats over structured meetings.
Technological Requirements	Concerns about privacy on WhatsApp were discussed, and the need for user-friendly features was acknowledged.	Informed consent mentions limitations of WhatsApp security; members also expressed concern about data privacy.
Platform Choice	WhatsApp was chosen due to ease of use, accessibility, and familiarity within the community.	Discussion of platform use throughout chats, with emphasis on WhatsApp's accessibility (e.g., 2024/06/19 and recruitment messages).
Recruitment Strategy	Recruitment through personal invitations, sharing links in the group, and plans for social media adverts discussed in chats.	Group members invited via links, and admin discussed using social media for future recruitment (messages on 2024/06/19).

5.2.2 Online social support platform

To meet the emotional, social, and practical needs of APs who are assisting people with substance dependency, the online social support platform was designed based on their social needs. Based on the results, the platform was created to be user-friendly, culturally appropriate, and accessible, especially for members of underprivileged communities who have little access to professional psychosocial services. Because WhatsApp is widely used, reasonably priced, and well-known to users already using it in their everyday lives in the study environment, it was chosen as the platform of choice.

The platform offered a flexible, peer-led setting that encouraged honest dialogue, sharing of feelings, and assistance amongst users. In addition to organised activities such as emotional check-ins, positive affirmation exercises, resource-sharing polls, and problem-solving talks, the programme featured reactive discussions that let individuals participate at their leisure. These activities were purposefully designed to be in line with the principles of Antonovsky's Sense of Coherence (SoC) framework for social support, which aims to foster meaningfulness by fostering a sense of purpose and belonging among peers,

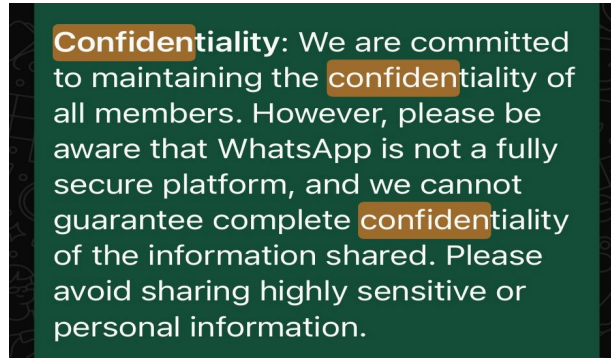
manageability by providing useful resources and coping mechanisms, and comprehensibility through explicit group guidelines (Figure 28) and shared experiences.

The platform included informed consent procedures, confidentiality agreements (Figure 29), and moderator oversight to maintain a morally and psychologically secure atmosphere. To ensure inclusivity and respect for a range of experiences, participants were urged to contribute at their comfort levels, as shown in Figure 30. Along with building individual resilience and group coping, the online group provided a forum for co-developing solutions, reflecting on personal struggles, and exchanging useful information. In situations when official mental health services are limited, our model showed that even basic, inexpensive digital technologies could provide significant support interventions. Below are some examples of the chats to illustrate the above points.

Group Guidelines:

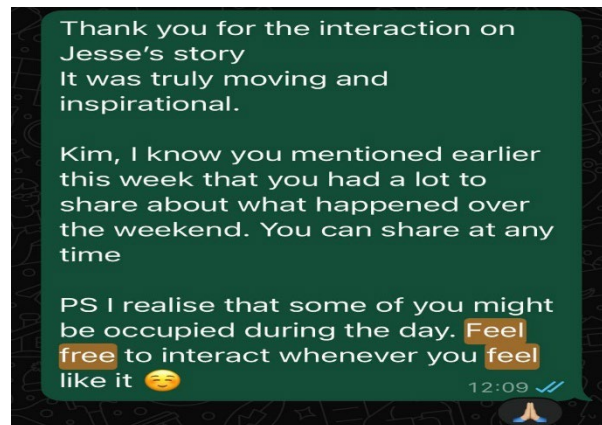
1. *Respect*: Treat all members with respect and kindness.
2. *Privacy*: Do not share information or screenshots from the group outside the group without permission.
3. *Supportive Environment*: Offer support and understanding; this is not a place for criticism or judgment.
4. *Safety*: If any member shares information that indicates they may be at risk of harm, please notify the group admin immediately.

Figure 28: Group guidelines

A screenshot of a WhatsApp message on a dark green background. The text is white and reads: "Confidentiality: We are committed to maintaining the confidentiality of all members. However, please be aware that WhatsApp is not a fully secure platform, and we cannot guarantee complete confidentiality of the information shared. Please avoid sharing highly sensitive or personal information." The words "Confidentiality" and "confidentiality" are highlighted in orange.

Confidentiality: We are committed to maintaining the confidentiality of all members. However, please be aware that WhatsApp is not a fully secure platform, and we cannot guarantee complete confidentiality of the information shared. Please avoid sharing highly sensitive or personal information.

Figure 29: Confidentiality agreement

A screenshot of a WhatsApp message on a dark green background. The text is white and reads: "Thank you for the interaction on Jesse's story It was truly moving and inspirational. Kim, I know you mentioned earlier this week that you had a lot to share about what happened over the weekend. You can share at any time PS I realise that some of you might be occupied during the day. Feel free to interact whenever you feel like it 😊". The words "Feel free" are highlighted in orange. At the bottom right, there is a timestamp "12:09" and a prayer hands emoji.

Thank you for the interaction on Jesse's story
It was truly moving and inspirational.

Kim, I know you mentioned earlier this week that you had a lot to share about what happened over the weekend. You can share at any time

PS I realise that some of you might be occupied during the day. Feel free to interact whenever you feel like it 😊

12:09 🙏

Figure 30: Participants encouraged to share when feeling free

5.2.3 Probe development based on social support and SoC theories

To ensure interactions were helpful, encouraging, and aligned with participants' real-life stressors and resilience resources, conversational probes for the online peer-led social support group were developed using both social support theory and Antonovsky's SoC framework. The purpose of the probes was to investigate several aspects of social support, such as self-regulation, esteem-building, companionship, instrumental assistance, informational support, emotional support, and appraisal support.

The types of support required were directly correlated with the stresses that were found, including conflict within the family, addiction, violence, public humiliation, disrespect, and emotional pain. By validating emotions and encouraging introspection, emotional probes, for example, helped participants reflect on their experiences of conflict or distress, making them more meaningful and manageable. To improve comprehensibility and offer clarity and practical responses, informational and instrumental probes were created to guide conversations about coping mechanisms for problems, including denial, theft, and a lack of protection. By encouraging participants to examine their circumstances, identify their

strengths, and consider different viewpoints, appraisal-focused questions fostered resilience and self-awareness.

Furthermore, participants were encouraged to share faith-based practices, community support, and personal growth strategies — such as prayer, perseverance, motherly love, empathy, and social support networks — that were frequently mentioned as resistance resources by probes that addressed self-regulation, esteem, and companionship.

In order to guarantee relevance, contextual factors such as political conditions, financial hardship, family dynamics, and societal conventions further influenced the framing of the investigations. In addition to being therapeutic, this probe development process ensured that the online interactions enhanced participants' feeling of manageability, meaningfulness, and comprehensibility—all of which are critical for bolstering psychological wellbeing within the SoC framework. Table 36 shows the coding for the social support theory based on the first phase.

Table 36: Extract of coding for social support theory based on the first phase

F	Stressor Category	Stressor	Resistant Resources Category	Resistant resources	Context category	Contextual factors		
Participant 1	Emotional	Violence	Emotional	Prayer	Appraisal	Corruption		Emotional
Participant 1	Appraisal	Family Conflict	Emotional	Calmness	Informational	Political environment		Informational
Participant 1	Emotional	Emotional distress	Esteem	Social support	Esteem	Economic issues		Instrumental
Participant 1	Instrumental	Lack of protection			Companionship	Social Support Network		Appraisal
Participant 1	Self Regulation	Political pressure						Self Regulation
Participant 2	Self Regulation	Addiction	Emotional	Prayer and faith	Emotional	Community and family support		Esteem
Participant 2	Appraisal	Theft	Emotional	Motherly love	Emotional	Spiritual beliefs		Companionship
Participant 2	Informational	Denial	Esteem	Support networks	Esteem	Economic issues		
Participant 2	Appraisal	Family conflict						
Participant 2	Emotional	Emotional distress						
Participant 3	Appraisal	Theft	Emotional	Prayer and faith	Emotional	Community and family support		
Participant 3	Informational	Denial and confrontat	Emotional	Motherly Love and Perseveran	Emotional	Spiritual beliefs		
Participant 3	Appraisal	Family conflict	Esteem	Social support networks	Appraisal	Economic impact		
Participant 3	Emotional	Emotional distress						
Participant 4	Appraisal	Confrontation and Disr	Emotional	Prayer and faith	Emotional	Community and family support		
Participant 4	Emotional	Emotional distress	Appraisal	Perseverance and Patience	Emotional	Spiritual beliefs		
Participant 4	Emotional	Public embarrassment	Esteem	Social support networks	Instrumental	Professional help		
Participant 5	Self Regulation	Drug use	Companionship	Communication	Informational	Legal environment		
Participant 5	Emotional	Public embarrassment	Instrumental	Confrontation	Esteem	Family dynamics		
Participant 5	Appraisal	Family conflict			Appraisal	Community Norms		
Participant 5	Appraisal	Confrontation and Disrespect						
Participant 1	Self Regulation	Disruption and Disrespe	Self Regulation	Conflict avoidance	Emotional	Family dynamics		
Participant 1	Emotional	Emotional distress	Emotional	Empathy and compassion	Informational	Social environment		
Participant 1	Appraisal	Family conflict	Appraisal	Personal development	Appraisal	Habitual behaviour		
Participant 1	Appraisal	Addiction and theft	Self Regulation	Conflict avoidance		Living situation		
Participant 1	Appraisal	Disrespect and verbal	Companionship	Communication with support	Self Regulation	Legal concerns		
Participant 1	Appraisal	Family conflict	Informational	Professional help	Companionship	Family and social support		
Participant 1	Emotional	Emotional distress	Instrumental	Protective measures	Informational	Systemic challenges		
Participant 1	Informational	Financial impact	Emotional	Motherly duty and perseverance				
Participant 1	Appraisal	Addiction and legal iss	Esteem	Empathy and support	Self Regulation	Work environment		
Participant 1	Appraisal	Theft and disruption	Informational	Practical advice	Emotional	Family dynamics		
Participant 1	Appraisal	Family conflict	Instrumental	Seeking help	Informational	Social awareness		
Participant 1	Emotional	Emotional distress	Appraisal	Resilience and understandin	Informational	Legal system		

5.2.4 Platform features linked with Sense of Coherence (SoC) framework

The following platform features, based on the Phase 1 findings, as these link with the SoC framework, are discussed next: emotional check-ins, peer discussions, and resource sharing.

Emotional check-ins were one of the main components of the peer-led online social support programme. By giving participants a safe environment in which they can freely express their emotions and get encouraging feedback from their peers, this exercise aims to assist participants in processing and managing their emotions. The manageability element of Antonovsky's Sense of Coherence (SoC) paradigm benefited greatly from emotional check-ins since they helped people identify and manage emotional pressures. Additionally, this element helped participants attach emotional relevance to their experiences by promoting emotional validation within the group and encouraging contemplation on emotional states.

Another essential platform component was peer discussions, which allowed participants to talk about their lived experiences and coping mechanisms with others who had gone through similar struggles. A shared awareness of the challenges of helping loved ones who suffer from substance abuse was made possible by this engaging and supportive setting. Discussions about their realities gave participants fresh insights, making their circumstances seem more organised and intelligible, thereby increasing comprehensibility. Furthermore, the process of mutual support and peer validation enhanced meaningfulness, and the exchange of coping mechanisms provided useful resources that aided manageability.

Resource sharing, a third aspect, was crucial for meeting the material support needs of the impacted individuals. This includes providing them access to professional services, coping mechanisms, legal aid choices, and service directories. By outlining the kinds of support that participants could receive and how to acquire them, resource sharing improved comprehensibility. By providing participants with practical answers to help them deal with the difficulties of caregiving, it also increased manageability.

The creation of these platform elements by the SoC framework was directly influenced by the information acquired through interviews, diaries, stakeholder mapping, and body mapping. Peer talks promoted comprehension, belonging, and shared meaning; resource sharing met participants' practical needs; and emotional check-ins focused on emotional regulation. When combined, these characteristics improved the psychological health and resilience by making their experiences more understandable, manageable, and meaningful.

Table 37: SoC Alignment

SoC Element	How it aligns	Examples from data	Platform features supporting it
Comprehensibility <i>(The world is structured, predictable, and understandable)</i>	<ul style="list-style-type: none"> - Understanding family dynamics, addiction consequences, and environmental stressors. - Gaining clarity on challenges and available supports. 	<ul style="list-style-type: none"> - <i>Family Conflict and Tension (Diaries)- Challenges in the Environment (Interviews)</i> - <i>Lack of Community and Institutional Support (Stakeholder Mapping)</i> - <i>Family Influence and Self-Perception (Body Mapping)</i> 	<ul style="list-style-type: none"> ✓ Resource Sharing (information on coping, legal aid, services) ✓ Peer Discussions (hearing shared experiences helps participants make sense of their situations)
Manageability <i>(Perception that resources are available to meet demands)</i>	<ul style="list-style-type: none"> - Learning and sharing coping strategies, resilience-building, and accessing practical help. - Identifying sources of formal (Toevlug, spiritual) and informal support. 	<ul style="list-style-type: none"> - <i>Coping and Prayer (Diaries)</i> - <i>Resilience and Coping Strategies (Body Mapping)</i> - <i>Potential of Toevlug as a Key Support Service (Stakeholder Mapping)</i> - <i>Coping Mechanisms (Interviews)</i> 	<ul style="list-style-type: none"> ✓ Emotional Check-Ins (managing emotional stress) ✓ Resource Sharing (directories for services, financial advice) ✓ Peer Advice (coping strategies, mutual help)
Meaningfulness <i>(Life makes sense emotionally; challenges are worthy of investment and engagement)</i>	<ul style="list-style-type: none"> - Finding identity, purpose, and emotional connection despite adversity. - Building self-reflection and a sense of control and belonging. 	<ul style="list-style-type: none"> - <i>Personal Fulfilment and Control (Interviews)</i> - <i>Emotional Connection and Reflection (Body Mapping)- Impact on Extended Family and Friends (Diaries)</i> - <i>Sense of Meaning and Purpose (Interviews)</i> 	<ul style="list-style-type: none"> ✓ Peer Discussions (sharing meaningful experiences)✓ Affirmations & Reflection Activities (identity, self-worth) ✓ Emotional Check-Ins (validating emotions)

This model illustrates the integration of key support components (emotional, informational, and instrumental; Appraisal; Self Regulation; Esteem; and Companionship [Table 38]) within the WhatsApp-based platform. It reflects the alignment with the Sense of Coherence (SoC) framework, highlighting how platform features such as emotional check-ins, peer discussions, and resource sharing contribute to comprehensibility, manageability, and meaningfulness for participants (Table 37).

Table 38: Framework for BEACON OF HOPE platform for APs

Needs Identified from Needs Analysis		
Core Platform Functions		
Emotional Check-ins	Resource Sharing	Peer Discussions & Affirmations
Support Types		
Emotional Support Appraisal Self Regulation	Informational Support Esteem	Instrumental Support Companionship
SoC Alignment		
Comprehensibility ✓	Manageability ✓	Meaningfulness ✓

5.2.5 Pilot study

The pilot study aimed to test the feasibility and effectiveness of the strategies developed in Phase 2, particularly the interventions designed to address the social support needs of APs living with or supporting individuals experiencing substance addiction. This section outlines the key components of the pilot study, from setting up the group and obtaining consent to facilitating engagements and monitoring the results. The goal of the pilot was to refine the intervention, evaluate its effectiveness, and gather insights to improve its implementation in future phases.

5.2.5.1 Setup group (welcome, consent, rules)

The first step in the pilot study was to establish the participant group. APs who had been recruited in Phase 2 were welcomed into the intervention group (after requesting to join) with an orientation session that explained the goals and structure of the study. This session helped to build rapport and foster trust among participants. Consent was obtained from all participants, ensuring that they understood the purpose of the study, their right to confidentiality, and the voluntary nature of their involvement. Participants were also informed of the ethical guidelines governing the study, including their right to withdraw at any time without consequence. The rules for participation were outlined, emphasising respectful communication, confidentiality, and active involvement. By setting clear expectations and ensuring informed consent (Figure 31), the study aimed to create a safe and supportive environment where participants felt comfortable sharing their experiences.

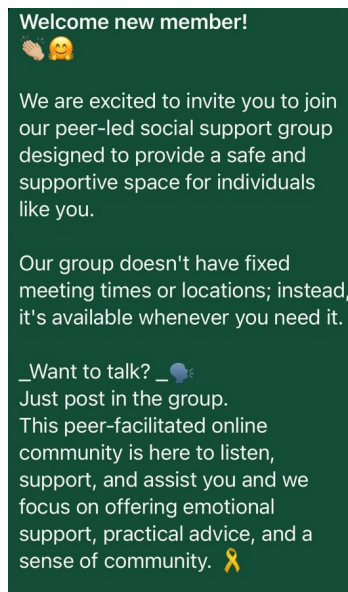


Figure 31: Screenshot of the welcome

Hello Everyone

I appreciate your interest in participating in our online peer support group for caregivers of loved ones with substance addiction. Before we proceed, I need to obtain your consent. Please read the following information carefully:

Study Purpose: To explore and enhance social support for caregivers of individuals with substance addiction.

What Participation Involves:

Joining an online peer support group on WhatsApp.
Sharing your experiences and participating in discussions.
Your participation is voluntary, and you can withdraw at any time without any negative consequences.

Figure 32: Screenshot of the consent

Group Guidelines:

1. *Respect:* Treat all members with respect and kindness.
2. *Privacy:* Do not share information or screenshots from the group outside the group without permission.
3. *Supportive Environment:* Offer support and understanding; this is not a place for criticism or judgment.
4. *Safety:* If any member shares information that indicates they may be at risk of harm, please notify the group admin immediately.

Figure 33: Screenshot of the guidelines

Your privacy is important to us.
Your identity and responses will be kept confidential.
Data collected will be used solely for the purpose of this study and will not be shared with third parties.
Potential Risks and Benefits:

There are minimal risks associated with participation, primarily emotional discomfort when discussing personal experiences. Benefits include receiving support from peers and contributing to research that may improve support mechanisms for others in similar situations.

If you agree to participate, please reply with "I consent" or "I agree."
If you have any questions, feel free to ask.

Thank you,
Chantal

20:14 ✓

Figure 34: Screenshot indicating that group privacy was emphasised

5.2.5.2 *Intervention design (BEACON OF HOPE)*

The intervention design was based on the online digital intervention, which focused on creating a virtual space where APs could interact, share their experiences, and access resources tailored to their needs. The online digital intervention integrated various components, including peer support forums, educational materials, and interactive activities aimed at fostering community building and resilience. The structure of the intervention was designed to be flexible, allowing for both structured and unstructured engagement, depending on participants' preferences. By offering a range of resources and activities, the intervention aimed to meet the diverse needs of APs, providing them with the tools and support necessary to cope with the challenges they faced.

5.2.5.3 Facilitate engagements

Facilitating engagements in the social media-based intervention involved ongoing moderation and support. The facilitator continuously maintained a positive and respectful environment in the online groups, encouraging participants to share their experiences, ask questions, and offer support to one another. Activities were designed to be interactive and flexible, allowing participants to engage at their own pace. The goal was to create a dynamic, peer-supported online community that mirrored the face-to-face group work of the pilot study while leveraging the accessibility and reach of social media platforms.

5.2.5.4 Repository update

As online engagements progressed, the repository was updated based on participant feedback and emerging themes from social media discussions. New content was regularly added to the repository, including educational materials, activities, helpful articles, and resource links to address specific issues raised by participants. Multimedia content, such as instructional videos and interactive quizzes, was also incorporated to engage participants in different ways. This constant updating ensured that the repository remained a valuable, relevant resource that directly addressed the needs and concerns of APs, offering ongoing support in their caregiving roles (See Figure 35).

 1. Emotional activities	2024/06/13 14:09
 2. Informational activities	2024/06/13 14:53
 3. Instrumental activities	2024/06/13 15:20
 4. Appraisal activities	2024/06/13 15:20
 5. Self-regulation activities	2024/06/13 15:29
 6. Esteem activities	2024/06/13 15:43
 7. Companionship activities	2024/07/22 13:34

Appraisal Activity Title: "Celebrating Strengths: Personal Achievements and Resilience"

Objective: This activity aims to highlight and celebrate personal achievements, strengths, and resilience among participants in a peer-facilitated online support group for individuals affected by substance abuse. By focusing on positive appraisals and fostering social support, this activity encourages reflection, empowerment, and mutual encouragement within the group.

Figure 35: Activity repository

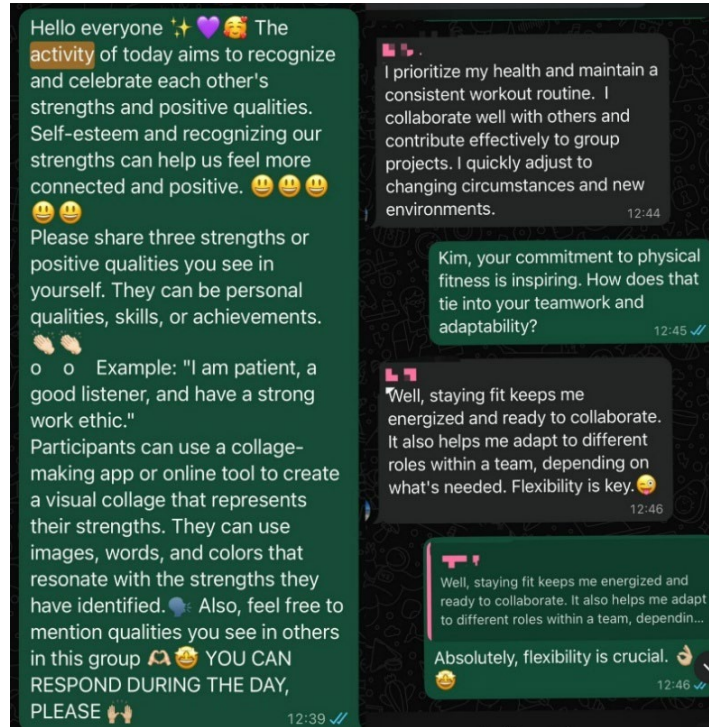


Figure 36: Actual activity

5.2.5.5 Monitor & control engagements

Monitoring and controlling the social media engagements involved overseeing interactions and ensuring that participants adhered to the guidelines (Figure 33) established at the outset. The facilitator tracked the frequency of posts, ensured discussions remained supportive, and addressed any inappropriate behavior or content, as seen in Figure 37. Additionally, participant feedback was regularly collected to assess the effectiveness of the intervention and identify areas for improvement. Monitoring also included reviewing the content shared in the groups to ensure its relevance and appropriateness for the participants. Adjustments were made based on participant responses and engagement levels to ensure that the online intervention remained accessible, engaging, and impactful. For instance, the facilitator would ask a participant whether they are willing to share any lived experience or comment.



Figure 37: Screenshot showing the facilitator managing inappropriate behaviour by removing members who were using the group for unrelated or unacceptable purposes

5.2.5.6 Pilot results

Table 39: Feedback from pilot group BEACON OF HOPE

Questions	Sample of responses
1. About the online support service: What contributed towards a positive experience of the service?	<i>'The fact that it was online and that I didn't have to get dressed and get transportation to see a professional.'</i>
2. About the online service: what contributed towards a negative experience of the service?	<i>'I was just afraid that one of my children would see and especially the boy because he would say that I was discussing him with people again and then walking around with a big mouth.'</i>
3. What would you like to share about the relationship formed with the facilitator/client during the chat?	<i>'I liked being able to talk to someone directly through the chat.'</i>
4. What would you like to share about the communication during the chat session?	<i>'It felt good to talk without fear of being judged.'</i>
5. What was positive or challenging about the technology in this kind of service?	<i>'Positive: The fact that the people don't know me. Challenging: The fact that I didn't quite understand how to press on the phone. I'm just a tech shy person.'</i>
6. What are your comments about the topics for which assistance was needed?	<i>'I got positive answers and I am looking forward to new challenges which may come up.'</i>
7. What are your comments about the access to such a service based on the needs of clients?	<i>'It is so convenient if you only understand what you are doing. I think it should be available at all times because sometimes you urgently want to talk to someone and seek help and advice.'</i>
8. What are the possible ethical concerns of such a service in your opinion?	<i>'I don't foresee any ethical concern with this service. Its anonymous, free of judgement, you are in control of what you share.'</i>
9. What in is your opinion could cause distress when using such a service and being confronted with a difficult situation a person has experienced? If it is not a concern, you can skip this question.	<i>'You can get emotional or let your emotions take over and or get angry and possibly curse at the person if they ask too much. They may not say what you want to hear and then you get angry.'</i>
10. Anything else that you think is important for such a service to be useful?	<i>'It should be free- I think it will help a lot of people.'</i>

The pilot study yielded valuable insights into the feasibility and effectiveness of the online digital intervention. The participants reported increased feelings of connectedness, validation, and understanding within a supportive environment. The pilot identified key stressors, such as financial strain and emotional distress, and highlighted the importance of accessible, adaptive support systems. Challenges encountered included initial resistance to engagement and technological barriers, which were addressed through targeted facilitation and technical assistance. Feedback from participants informed the refinement of recruitment strategies, facilitation techniques, and content delivery for future iterations.

5.3 Intervention design preparation

In this sub-section, the recruitment strategy and data collection period are indicated.

5.3.1 Participant recruitment (Post pilot)

A community-driven strategy was used to recruit participants for the main intervention group after the pilot period. To reach a larger audience of APs who would benefit from the online peer-led support group, the facilitator and current group members from the pilot published the invitation link on their personal social media channels. This strategy made use of the participants' social networks to naturally increase the intervention's community reach.

An important finding is that the pilot participants chose to stay in the main intervention (Figure 38) group because they wanted to continue. In addition to ensuring continuity, this strategy improved the intervention group's sense of belonging and peer support going forward. It seems that the social support they received from the facilitator and peers satisfied met their need for support.

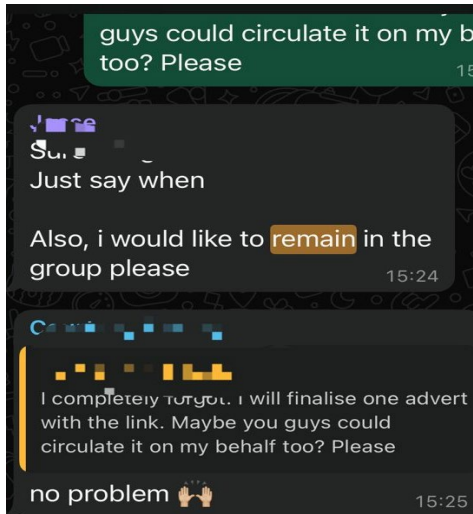
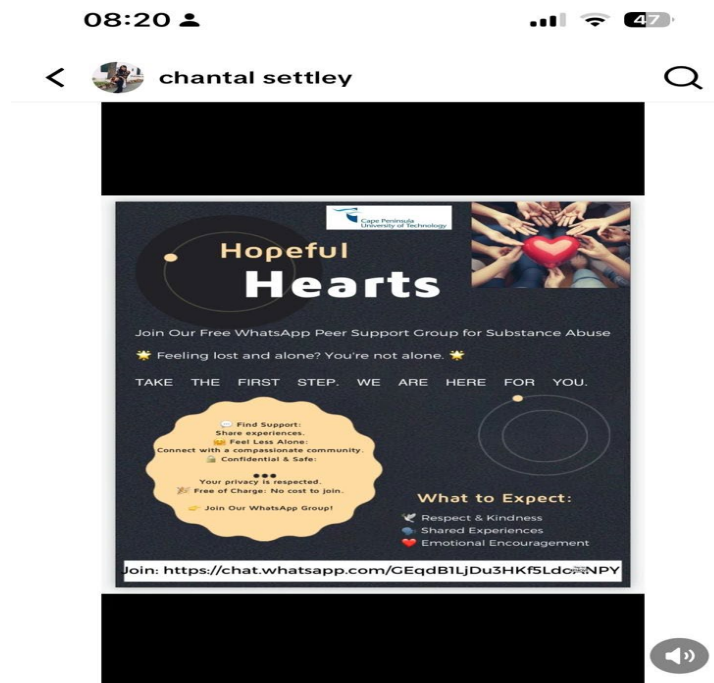


Figure 38: Participants choosing to remain in the main intervention group



<https://chat.whatsapp.com/GEqdB1LjDu3HKf5LdoANPY>

Figure 39: Facilitator sharing on social media platforms

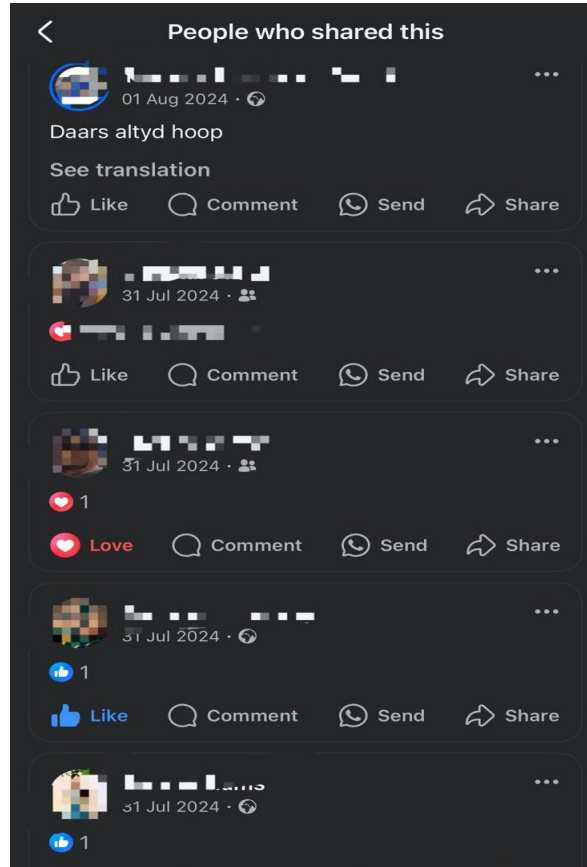


Figure 40: Participants and contacts on social media platforms sharing the post

5.3.2 Engagement period and participant recruitment

The engagements spanned five months, with participants recruited through community organisations, addiction support networks, and referrals from healthcare providers and posts, and advertisements by the facilitator and participants from both the pilot and intervention group. Inclusion criteria focused on APs actively supporting individuals with substance addiction. Recruitment efforts emphasised trust and confidentiality, and onboarding included comprehensive orientation sessions to ensure understanding of the platform's purpose and rules.

5.4 Participant engagements in peer-to-peer Social Support

During this phase as seen in Table 39, the focus was on the facilitator's role as facilitator in participants' interaction, response preferences, and social support-informed probing to ethically develop SoC strategies.

Table 40: Stage 2 Activities and expected outputs for online support development

Stage 2	Activities	Expected Output
<ul style="list-style-type: none"> • Gain insight into participants' interaction and response preferences. • Encourage participation in conversations based on a suitable theoretical lens. 	<ul style="list-style-type: none"> • Facilitate engagement through probing activities grounded in elements of online social support. • Reflect on the level and nature of participation engagements. • Monitor participants' experiences during participation moments. • Ensure adherence to ethical behaviour. 	<ul style="list-style-type: none"> • Social support categories. • Significant participation moments in participation experiences: engagement level and frequency on an individual/group level. • Content of conversation responses to probes. • Moderator role. • Ethical issues experienced

5.4.1 Participant interaction and response preferences (feedback)

In their conversations, participants in the online support intervention frequently displayed intense emotions and vulnerabilities while sharing emotional and intimate stories. Many said they felt at ease enough to talk about comfortable enough to discuss delicate topics; others even said they could talk about topics they wouldn't even bring up with close friends. Participants were free to express themselves honestly and freely because they valued the privacy (Figure 34), anonymity, and because they valued privacy (Figure 34), anonymity, and the flexibility to engage at their own pace.

Many emphasised how the ability to use pseudonyms, communicate through chat instead of voice, and quickly access the site from home made the experience feel less intimidating and safer. The pilot group's input directly influenced the strategies used to maintain the intervention's relevance and activity. With modifications made in response to feedback regarding accessibility, communication preferences, and the requirement for facilitators to respond quickly and sympathetically, this participant-driven approach ensured that the service remained responsive to user needs. Trust, empathy, and a sincere sense of being heard characterized the facilitator-participant relationship overall, which greatly enhanced the intervention's positive experience.

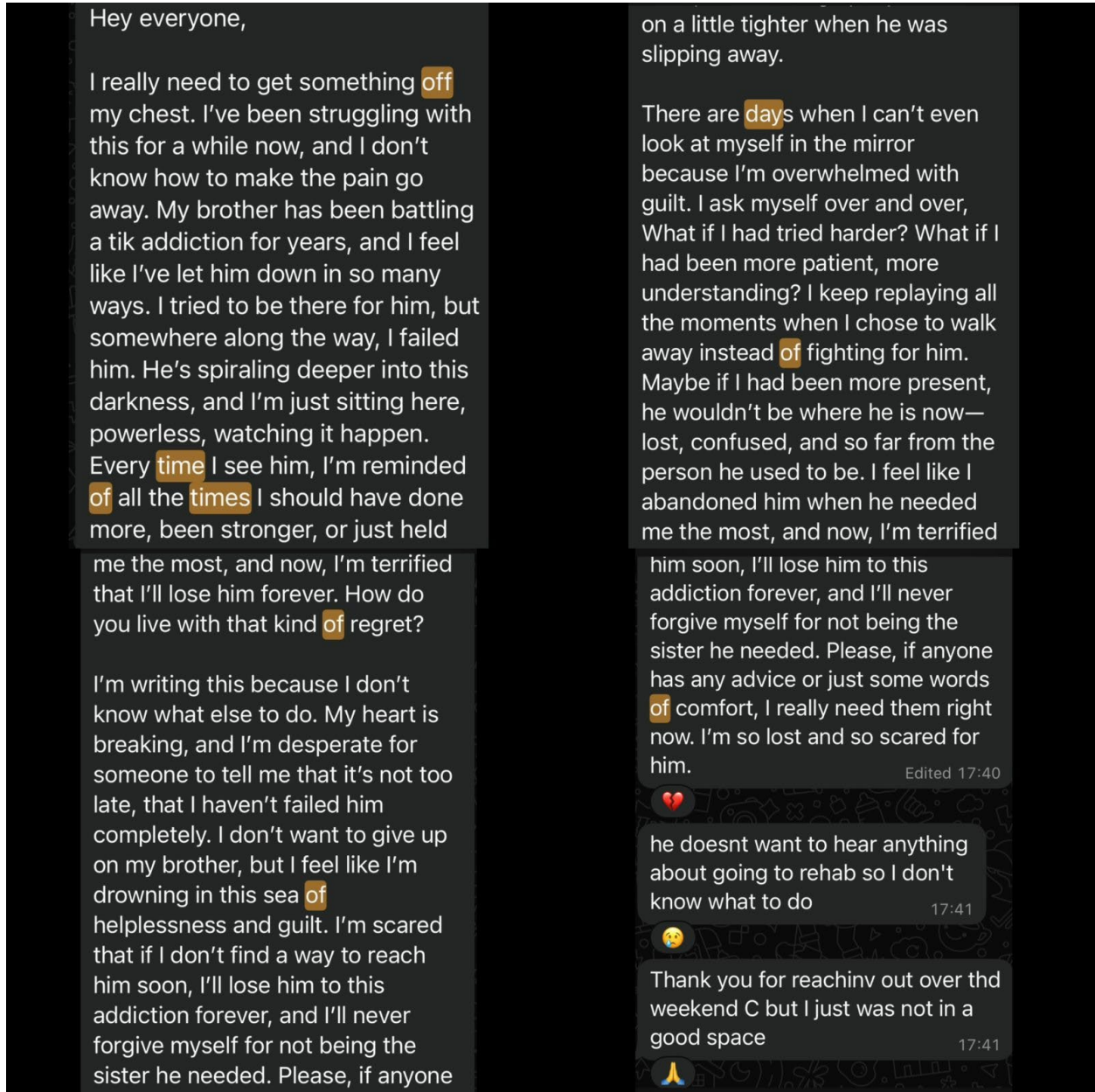


Figure 41: A participant sharing a heartfelt story

5.4.2 Social support probes for conversations

The social support classification scheme proposed by Cohen and Wills (1985), developed specifically for analysing messages exchanged in online health forums, served as the basis for creating conversational probes within the OPSSG. This framework offered an organised method for comprehending and promoting various types of effective group interactions. Instrumental support, which refers to tangible aid or practical help; appraisal support, which helps participants evaluate themselves through constructive feedback; companionship, which offers a sense of belonging and shared experience;

informational support, which offers advice, suggestions, or guidance; and emotional support, which involves expressions of empathy, care, and comfort. To assist participants in managing their emotions and developing self-confidence, additional categories were included, such as self-regulation and esteem-building. In line with these categories, probes were thoughtfully designed to elicit introspection, promote experience sharing, and enable mutual assistance. For instance, educational probes led to discussions about coping mechanisms, available resources, and helpful tips, while emotional support probes asked members to share how they were feeling. The OPSSG made sure that interactions stayed constructive, encouraging, and supportive of the group's psychological wellbeing by basing the design of conversational prompts on this established classification framework.

Table 41: Social support probes for conversations (Based on Cohen & Wills, 1985)

Category	Definition	Example probes	Interaction outcome
Emotional Support	Expressions of empathy, care, comfort, and understanding.	<i>“How have you been feeling lately?”</i> <i>“Would you like to share what’s been weighing on your mind?”</i>	Participants opened up easily. They showed trust and emotional relief.
Informational Support	Sharing advice, suggestions, or guidance.	<i>“What strategies have worked for you when dealing with stress?”</i> <i>“Would you like information on services?”</i>	Participants willingly shared coping mechanisms and resources.
Instrumental Support	Offering tangible help or practical support.	<i>“Are there any resources or services others here have found helpful?”</i>	Participants offered moderate help and support to other members of the group.
Appraisal Support	Providing constructive feedback or affirmation to assist self-evaluation.	<i>“How do you see your progress in coping so far?”</i> <i>“What strengths have you noticed in yourself lately?”</i>	There were mixed responses: a few participants shared detailed information, while others seemed hesitant.
Self-Regulation	Encouraging emotional regulation and coping strategies.	<i>“What helps you stay calm during stressful situations?”</i> <i>“How do you manage overwhelming emotions?”</i>	Strong peer reinforcement was observed
Esteem Support	Boosting confidence and offering validation.	<i>“You are doing so well by just showing up here—how does that feel?”</i> <i>“What achievements are you proud of recently?”</i>	High engagement was observed as participants responded positively and expressed pride.

Companionship	Fostering a sense of belonging and shared experience.	<i>“It’s comforting to know we are not alone. Would anyone like to share something positive from this week?”</i>	A warm group atmosphere prevailed, with laughter and storytelling strengthening bonds among members (Figure 36).
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Although the social support categories proposed by Cohen & Willis (1985) provided a framework for the probe development, extra sub-categories were added based on the participants’ responses to the chats, which classified supportive communication within online health forums (Table 40). These recently created categories, which represent the specific demands and dynamics seen in this particular community, emerged naturally from participant interactions. By incorporating various types of support that were not explicitly mentioned in the original model, such as resourcefulness, emotional availability, perspective taking, trust building, moral support, and affirmation, the addition of these categories improves the original framework. A precise definition and examples of conversational probes or common phrases that were employed to elicit or reflect these types of support in the group setting are provided for each category in Appendix 2. Peer-led online assistance can be better understood with this extended paradigm, especially when it comes to substance abuse and those who are impacted by it.

5.4.3 Monitoring and moderation

Thankfully, no instances of unethical or improper emotional support - such as triggering content, damaging counsel, or boundary breaches within group conversations - occurred during the BEACON OF HOPE's implementation. One single instance, though, was a person privately messaging group members and having irrelevant discussions that had nothing to do with the support group's goals. It became clear that the person's additional goals were incompatible with the BEACON OF HOPE's objectives and core values. In order to protect the members' psychological safety and comfort, the facilitator swiftly removed the offending individual from the group after discovering this behaviour. This swift response reaffirmed the group's moral commitment to upholding a polite and encouraging atmosphere as well as its boundaries. The facilitator emphasised the significance of limiting all contacts to the group space and urged participants to report any such behaviour in the future as a preventive precaution. To maintain the integrity of the support space, this experience emphasises the importance of explicit group rules, proactive communication, and active moderation. Although the issue was successfully resolved, future ethical precautions could include reminding participants that all support should take place in a controlled, monitored group setting, introducing stronger disclaimers in the consent process, and formally informing them of the dangers of private messaging.

5.5 Co-design peer-to-peer sessions

Table 42: Stage 3 Activities and expected outputs for online support development

Stage 3	Activities	Expected Output
<ul style="list-style-type: none">• Design the peer-led social support group.• Encourage participation and monitor conversations.• Use social media qualities to facilitate participation.	<ul style="list-style-type: none">• Facilitate online discussions (emotional check-ins, resource sharing, etc.).• Document ideas, suggestions, and feedback.• Monitor (what?) and reflect.	<ul style="list-style-type: none">• Collaborative ideas and feedback.• Defined adapt moderator role.

5.5.1 Online social support conversations

A number of significant subcategories, particularly relevant in the context of an Online Peer Support Service Group (OPSSG), are revealed by the examination of the social support design. These subcategories

go beyond conventional definitions by considering the researcher's findings, which highlight the specific dynamics of online peer interactions (Table 42 and Table 43).

- First of all, resourcefulness is an essential component of the information support category. It entails exchanging useful advice, strategies, and firsthand accounts that might help others deal with similar challenges in their lives. This type of assistance improves problem-solving skills and cultivates a cooperative learning atmosphere.
- Understanding, a subtype of emotional support, highlights the value of empathy and group emotional resonance. Participants may feel less alone and more psychologically at ease if they acknowledge and validate each other's feelings.
- In the context of esteem support, recognition and acknowledgment are essential. Members' self-esteem and motivation for engaging in the group increase when their efforts, advancements, or contributions are recognized.
- Under the companionship category, openness promotes involvement and the sharing of individual experiences. This reduces individuals' feelings of loneliness, increases group cohesiveness, and cultivates a sense of belonging.
- The group's overall motivation to remain resilient and optimistic is evident in the positive emotional subcategory, Sense of Seeking Positivity, Strength, and Hope. Maintaining motivation, particularly under stressful conditions, requires this supportive emotional environment.
- Lastly, advocacy is an especially efficient method to provide emotional support. It draws attention to the group's function in promoting the needs, rights, and wellbeing of its members, going beyond emotional satisfaction to encourage action and empowerment.
- These subcategories emphasise the need for both practical and emotional support to promote resilience and well-being, as well as the complex nature of social support in online peer groups.

Table 43: Significant social support subcategories with definitions and examples

Category	Subcategory	Source	Definition	Example Quote/Probe
Information Support	Resourcefulness	New (Researcher)	Sharing creative, practical solutions or personal experiences to help manage challenges.	<i>"What worked for me was..." / "A trick I use is..."</i>
Emotional Support	Understanding	New (Researcher)	Understanding others' feelings and situations helps to provide emotional comfort and support.	<i>"Doesn't sound too good hey?! 🥺❤️ remember to not be too hard on yourself. And know that we</i>

				<i>care and will listen anytime 🙌❤️100"</i>
Esteem Support	Acknowledgement/ Recognition	New (Researcher)	Affirming someone's contributions, efforts, or progress to boost confidence and self-worth.	<i>"I know how much you value your work, the students and I know you want to grow and be all you could be".</i>
Companionship	Openness	New (Researcher)	Encouraging group members to engage, share, and participate to foster community and belonging.	<i>"Hello everyone. Thought I'd take the time to pop in and ask how everyone is doing..." — (A participant initiating group check-in)</i>
Emotions (Positive)	Sense of Seeking Positivity, Strength & Hope	New (Researcher)	Optimistic outlook and resilience in facing challenges.	<i>"Morning all. This is so inspiring. Just what I need this morning. Blessed week to all of you".</i>
Emotional Support	Advocacy	New (Researcher)	Supporting and empowering individuals by promoting their rights, needs, and well-being.	<i>"You must look for other work. Make it a priority... You cannot stay there... Whether it's setting boundaries, seeking new opportunities, or focusing on your personal growth, you have the power to create a brighter path for yourself".</i>

5.5.2 Reflections and feedback

5.5.2.1 Facilitator's reflection

Maintaining a helpful, practical, and welcoming online peer support environment entails an immense amount of responsibility, the facilitator acknowledged. It became clear that, even though the WhatsApp platform is accessible, there are still shortcomings, especially in navigation and varying participant involvement levels. Participants appreciated the encouraging environment, according to feedback, but also wanted enhancements such as improved navigation and the addition of features like a calendar. The

facilitator noticed that participants frequently interact on their own schedule, favoring brief voice calls or emoji responses over long text messages. This behaviour is probably affected by work-related demands, such as shift work. Phrases like *"Remember the small wins"* emerged naturally, demonstrating how the group culture evolved naturally. The extent of empathy and emotional support that was shared, which occasionally brought participants to tears, confirmed to the facilitator how important peer support is. This encounter further fuelled the facilitator's desire to start or participate in larger community-based initiatives that support APs outside of the current research.

5.5.2.2 Participants' reflections

In their positive reflections on their experiences in the online peer support group, participants often emphasised the empathy, shared understanding, and emotional support they encountered. They said that the group offered a secure, accepting environment where they could openly discuss coping mechanisms, share personal experiences, and give and receive advice. Several stated that involvement improved their emotional health and reduced the stress and loneliness that are frequently connected to caring for people who are addicted to drugs. Although a few members had minor difficulties with specific WhatsApp features, most were happy with the way the group was set up and appreciated the use of voice notes, polls, and group chats. Participants' interest in preserving participation and developing relationships within the group was evident in the proposal for regular activities, such as a weekly reflection thread. All things considered, participants stressed the value of frequent check-ins, encouraging words, and constant support, which together promoted resilience, hope, and a feeling of belonging.

5.6 Develop a peer-to-peer social support prototype

Table 44: Stage 4 activities and expected outputs for online support development

Stage 4	Activities	Expected output
<ul style="list-style-type: none"> • Develop the online peer support group intervention. • Refine designs based on participant feedback. 	<ul style="list-style-type: none"> • Develop wireframes for features (mood tracking, resource directories, and discussion boards). • Iteratively refine designs. 	<ul style="list-style-type: none"> • Prototype key features. • Refinements based on feedback.

5.6.1 Intervention prototype development considerations

The SoC framework and Social Support Theory served as the foundation for the creation of the OPSSG prototype. The identification of fundamental user needs - namely, the provision of emotional, informational, esteem, instrumental, appraisal, self-regulation, and companionship support - as well as the development of a sense of understandability, manageability, and significance for individuals impacted by a loved one's substance addiction, was guided by these theoretical underpinnings. Because of its broad availability, user familiarity, and low data consumption - all crucial factors for participants in under-resourced and rural communities - the WhatsApp platform was chosen for the prototype (Table 44).

The prototype included regular emotional check-ins to encourage psychological well-being, a safe and nonjudgmental space where confidentiality and respect are upheld, group chat functionality to facilitate real-time communication and emotional support, and the sharing of thoughtfully selected resources related to coping, treatment options, and local services. Furthermore, natural elements arose from participant interactions, including the informal development of reinforcing group slogans like "*Remember the small wins*", the usage of voice notes, and reactions (emojis), all of which strengthened group resilience. The prototype was deliberately designed to strike a balance between usability and emotional safety, recognising the emotional burden that APs bear.

Participants' levels of digital literacy were also taken into consideration during the creation process, ensuring the group would remain user-friendly and accessible without requiring complex navigation or technological know-how. The platform is relevant for participants in rural South African contexts because of its design, which prioritised psychological safety, minimal bandwidth requirements, and culturally sensitive communication norms.

5.6.2 Intervention prototyping refinement considerations

Before the entire rollout, an initial pilot group provided valuable feedback that guided the online digital intervention's prototype improvement. According to participants' perspectives, there are certain pain points, such as handling high message volume during peak activity, finding shared papers, and occasionally navigating group settings. Given the socioeconomic and physical limitations of rural communities — where intermittent internet connectivity, restricted access to smartphones with adequate storage, and unpredictable electricity supplies pose real obstacles to digital engagement — these findings were especially noteworthy.

To improve the accessibility of important information, technical refinement focused on improving the WhatsApp environment by implementing regular weekly activities, including emotional check-ins, "highlight of the week" reflections, and pinned messages. Additional changes included making communication rules simpler, making new member orientation procedures more understandable, and using voice notes as a substitute for people with low literacy or time constraints, particularly shift workers like nurses and caregivers. In order to accommodate users with different levels of digital literacy, accessibility improvements were given priority, and data-saving techniques, including compressing shared files and restricting external media, were implemented. Group standards about secrecy, respect, and nonjudgmental interactions were reinforced because emotional safety was still a top priority.

The significance of psychosocial reinforcement was also emphasised in the feedback, leading to the addition of more structured affirmations, peer recognition, and proactive encouragement of self-care behaviours among group members. In the end, the refinement phase struck a balance between participants' psychological and emotional needs and technological viability, ensuring that the OPSSG would continue to be a long-lasting, encouraging, and empowering online community for affected individuals navigating the challenges of substance abuse.

5.7 Test and Refine the Peer-to-Peer Social Support Prototype

Table 45: Stage 5 activities and expected outputs for online support development

Stage 5	Activities	Expected output
<ul style="list-style-type: none"> • Test usability and refine the prototype based on feedback. 	<ul style="list-style-type: none"> • Usability testing in real-life scenarios. • Refinement of features based on feedback (e.g., simplifying navigation). 	<ul style="list-style-type: none"> • Refined prototype based on usability testing. • Improved user experience

The next important stage as seen in Table 45, is that, after creating the first online digital intervention the prototype was thoroughly tested and improvements were made to ensure the intervention satisfied users' needs. The WhatsApp environment was used for usability testing in real-world situations where users shared personal stories, provided emotional support, participated in polls, and accessed shared resources, among other common group activities. This testing phase provided important information about how users experienced the peer-to-peer help model, navigated the platform, and engaged with its features.

Several areas for improvement were identified by the input. Participants requested simplified navigation, especially for controlling message volume, accessing pinned resources, and understanding group protocols. Data limits, inconsistent network connectivity, and differing levels of digital literacy were issues for certain users in rural areas. In response, the prototype was improved to simplify user interactions. For example, pinned welcome messages, frequent emotional check-ins, and clearly organised weekly tasks were added to lessen cognitive overload. While document sharing was modified to minimise data usage, voice notes were prioritised to support users with time constraints or literacy issues.

The improved prototype significantly enhanced the user experience. Participants said they felt more at ease interacting with the group, comprehending expectations, and utilising resources when required. Reinforcing group rules such as confidentiality and polite participation, significantly improved emotional safety. In the end, the testing and improvement process produced a peer support platform that was not only useful and easily accessible but also exceptionally compatible with the psychological and emotional requirements of those who assist persons struggling with substance abuse.

5.7.1 Usability considerations

The OPSSG prototype was developed and improved with usability in mind, especially considering the contextual realities of participants from underprivileged and rural areas. Regardless of participants' levels of digital literacy or the availability of dependable internet connections, the main goal was to ensure the platform was user-friendly, accessible, and encouraging. Because WhatsApp is well-known, frequently used, and uses less data than other apps, its selection as the platform itself was a crucial usability choice.

During testing, some usability issues surfaced, such as trouble managing notifications, finding crucial information in the midst of large message volumes, and comprehending group features like document sharing or polls. The overwhelming volume of text-based exchanges was another issue raised by participants, especially during busy periods. The refinement process added pinned guidelines, simplified group instructions, and organized procedures like planned check-ins and reflections to solve these problems. Voice notes' widespread use enhanced usability even further by providing a more accessible communication method for people who are time-, literacy-, or screen-fatigued.

Furthermore, usability concerns went beyond technical functionality to include emotional usability, which made sure that users felt supported, heard, and protected in the digital environment. The focus on clear group guidelines, confidentiality reminders, and the development of a compassionate atmosphere were

intentional usability tactics intended to reduce fear and increase a sense of community. The prototype was developed into a highly practical and user-centred support tool that addresses the various needs of APs navigating the difficulties of substance addiction within their families by carefully striking a balance between technical simplicity and emotional comfort.

5.8 Implement and evaluate

Table 46: Stage 6 activities and expected outputs for online support development

Stage 6	Activities	Expected output
<ul style="list-style-type: none"> • Launch the peer-led web resource (PLWR) online. • Evaluate its effectiveness. 	<ul style="list-style-type: none"> • Launch the PLWR online and promote it. - Monitor user engagement, collect feedback, and conduct impact assessments. 	<ul style="list-style-type: none"> • Ongoing feedback collection. • Evaluation of the PLWR’s effectiveness.

Following the conclusion of the pilot study, the intervention was prepared for broader implementation. The implementation and evaluation phase falls outside the scope of this study, as implementation considerations require broader stakeholder involvement to incorporate the proposed intervention into a sustainable social support service for a specific target group. Post-study steps also include integrating participant feedback into the platform design, expanding recruitment strategies to reach a wider audience, independent of geographical location, while considering the importance of language and other cultural factors, and partnering with community organisations for sustainability. Training additional moderators and establishing a monitoring framework were critical components to ensure the platform’s sustainability and long-term effectiveness. These steps in stage 6 (Table 46) aim to establish a sustainable, adaptive model to support APs across diverse contexts.

5.9 Online participation strategies (in practice)

The results of Phase 1, which examined the social support of APs who live with or assist those who are addicted to substances, are expanded upon in this section. Although facing isolation, stigma, financial burden, and emotional strain, APs find strength in their spirituality, familial networks, and rehabilitation programs. These revelations emphasise the necessity of context-driven tactics to strengthen support networks.

The proposed Online Peer Support System for Group Interventions (OPSSGI), a peer-led, facilitator-supported model that uses social media features to enable discussion, activities, and resource-sharing

tailored to APs' needs, is the next step in turning these findings into workable online participation strategies.

5.9.1 Consolidate contextual aspects and needs analysis

Phase 1 of this study focused on identifying and understanding the social support needs of APs who are living with or supporting individuals experiencing substance addiction. The findings from this phase revealed a range of critical stressors faced by APs, including emotional strain due to family conflict, financial burdens arising from addiction-related expenses, and the psychological toll of supporting a loved one in distress. These stressors were exacerbated by situational factors such as stigma, limited access to community resources, and geographical isolation, all of which contributed to feelings of helplessness and isolation among APs.

However, despite these challenges, Phase 1 also identified several resistant resources that help APs navigate their difficulties, including strong family networks, spiritual practices, and access to rehabilitation services. The findings highlighted the need for a comprehensive approach to support, emphasizing the importance of addressing both the challenges and resources in designing effective interventions.

These insights form the foundation for the next phase of the study, which shifts the focus to developing and testing strategies to improve social support systems for APs.

Figure 42 illustrates a proposed architecture for an OPSSGI design. It shows how individuals (APs) facing stress within their lived realities seek support via an online peer-led group. The process is facilitated by a social support moderator/facilitator and enabled by a social media platform. On this platform, participation activities, posts, and conversations allow members to engage, provide, and receive support. Engagement features, cues, and different media formats further enhance group interactions and sustain support provision.

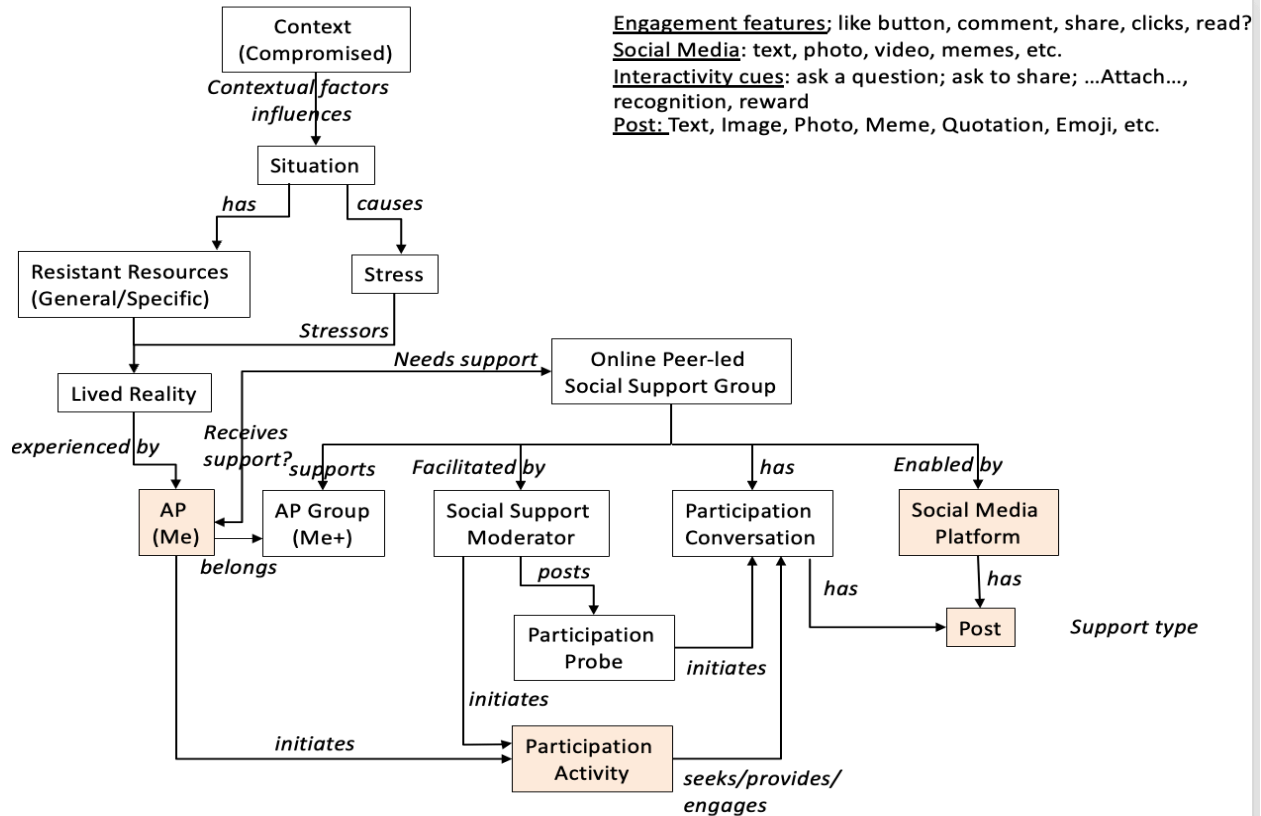


Figure 42: The proposed architecture for a peer-to-peer online social support group intervention design

5.9.2 Develop suitable strategies guidelines

In response to the findings from Phase 1, this section outlines the development of suitable strategies to address the social support needs of APs living with or supporting individuals experiencing substance addiction. These strategies are designed to ensure that interventions are effective, accessible, and tailored to the unique challenges and resources identified. The strategies focus on recruitment, participation, facilitation, moderation, and repository design, each of which plays a pivotal role in fostering an inclusive, supportive, and engaging environment for APs.

5.9.2.1 Recruitment strategy (target, involvement)

The recruitment strategy aims to identify and engage APs who would benefit most from the intervention. The target group includes individuals who are directly or indirectly impacted by substance addiction, such as family members, close friends, and caregivers. The strategy involves reaching out to diverse community groups, addiction support organisations, and healthcare providers to ensure broad participation. Special attention will be given to targeting individuals who may not have direct access to formal support networks

or those in marginalised areas with limited resources. Involvement will be promoted through community outreach efforts, including informational sessions, partnerships with local organisations, and online campaigns that emphasise the value of participation in improving social support systems. Ensuring that recruitment efforts are inclusive, culturally sensitive, and accessible will increase engagement and ensure diverse representation.

5.9.2.2 Participation strategy (activities)

The participation strategy outlines the activities that will actively engage APs in the intervention process, ensuring they can contribute meaningfully to their own support and recovery. Activities will be designed to foster a sense of community, promote shared experiences, and build resilience among participants. These may include group discussions, peer support meetings, skill-building workshops, and reflective journaling. Furthermore, activities will aim to address both emotional and practical aspects of caregiving, such as managing stress, coping with stigma, and navigating the challenges of financial and emotional strain. Regular check-ins and interactive workshops will allow APs to provide feedback, share insights, and develop solutions together. The goal of the participation strategy is to ensure that APs feel empowered, supported, and connected, thereby creating a collaborative environment where participants learn from one another and develop their own strategies for coping.

5.9.2.3 Facilitation & moderation strategy

The facilitation and moderation strategy is integral to creating a safe, supportive, and engaging environment for APs. Facilitators and moderators will be trained to manage group dynamics, promote open communication, and ensure that all voices are heard. They will be responsible for guiding discussions, keeping participants on track, and addressing sensitive issues with empathy and respect. Effective facilitation will be critical in managing discussions around complex and potentially triggering topics such as addiction, family conflict, and financial stress. Moderators will also ensure that the group environment is free from judgment and stigma, creating a space where APs can feel comfortable sharing their experiences without fear of reprisal or discrimination. Facilitators will be encouraged to use active listening, reflective techniques, and group exercises that promote mutual support and understanding. This strategy will foster a positive and constructive atmosphere that supports participants in building trust and collaboration.

5.9.2.4 *Repository design (probes, content, media & resources) strategy*

The repository design strategy outlines the structure and content of a digital or physical resource hub that will support the intervention and serve as a long-term resource for APs. This repository will include a variety of resources, including informational materials, coping strategies, support guides, and case studies that address common challenges faced by APs. Probes will be used to assess participants' needs and preferences, ensuring the content is relevant, culturally sensitive, and accessible. The content will be categorised by common stressors, coping mechanisms, and resources, so APs can easily access the information they need. The repository will also include multimedia resources, such as instructional videos, podcasts, and interactive modules, to engage participants with diverse learning preferences. Additionally, the platform will offer downloadable materials, such as worksheets, journals, and checklists, which APs can use in their daily lives. By providing a diverse range of media and resources, the repository will support APs in navigating the complexities of their caregiving roles and contribute to their ongoing personal growth and resilience.

5.10 Research output: Intervention Prototyping: Online engagements with APs using social media data findings & method findings

As seen in Figures 34 and 35, the intervention prototype employed social media platforms to engage APs supporting individuals with substance addiction. Social media was chosen for its accessibility and familiarity, ensuring participation despite geographical and resource constraints. The platform facilitated peer interactions, shared resources, and provided moderated discussions, creating a virtual community for emotional and practical support.

5.10.1 Facilitate engagements

Facilitation involved structured activities such as topic-specific discussions, peer-led storytelling, and interactive Q&A sessions with peers. The facilitator, who was also the moderator, guided conversations to maintain focus, promote inclusivity, and manage conflicts. Engagements were designed to foster a safe and empathetic space, encouraging participants to share experiences and seek advice.

5.10.2 Repository update

The repository was continually updated with relevant resources, including articles, videos, and support tools tailored to APs' needs. Themes emerging from discussions informed the creation of targeted content

addressing identified challenges, such as financial stress management, coping strategies, and navigating community support systems.

5.10.3 Monitor & control engagements

Engagements were closely monitored to ensure adherence to group rules, promote respectful interactions, and address emerging conflicts. The facilitator implemented a reflection document to evaluate participation rates, user feedback, and the effectiveness of activities.

5.10.4 Chat Analysis

The chat analysis illustrated in Table 47 focuses on extracting meaningful patterns from participant interactions, using thematic, sentiment, and content analyses to understand the intervention’s impact.

Table 47: Overview of analytical methods applied to OPSSG chat data

Type of Analysis	How it was done	Key findings	Application of findings
Thematic Analysis	Systematic review of chat transcripts with manual coding of recurring words, phrases, and patterns. Codes were grouped into broader themes aligned with Social Support Theory.	Recurring topics: emotional resilience, family dynamics, community support. Key themes: self-care, peer validation, stigma, and isolation.	Informed future content design, emotional check-ins, and targeted support activities.
Sentiment Analysis	Manual classification of message tone (positive, negative, neutral) based on language cues, emojis, expressions, and contextual meaning.	Fluctuations in emotional tone. Positive around shared successes and encouragement. Negative around grief, frustration, and helplessness.	Highlighted when emotional support needed strengthening; guided timing for motivational posts and check-ins.
Content Analysis	Categorised participant contributions by tracking frequency and types of topics (e.g., financial management, stress coping). A coding matrix was used to organise data.	Common topics: stress management, financial coping, addiction-related challenges, and access to institutional support.	Guided the curation of resources and ensured that the support group remained responsive to participant needs.

This matrix was applied while manually reviewing chat transcripts (see Table 48). Each message was scanned for expressions that fit the definitions under categories such as emotional support, esteem support, and information support. Messages were tagged with the corresponding codes (e.g., EN, CO, NE),

and frequency counts were maintained to assess common patterns. This structured process ensured that the analysis was systematic, repeatable, and aligned with the study’s theoretical framework.

5.10.4.1 Thematic

The thematic analysis revealed recurring topics, including emotional resilience, family dynamics, and community support. Key themes included the significance of self-care, the value of peer validation, and the challenges of stigma and isolation .

Table 48: Coding matrix for analysis of OPSSG chat interactions

Category	Subcategory	Code	Description	Example from Chat	Frequency
Emotional Support	Encouragement	EN	Providing motivation, hope, or positive reinforcement.	<i>"You are strong... You've got this!"</i>	High
Emotional Support	Compassion	CO	Showing care, concern, and empathy.	<i>"I'm sorry to hear that... sending strength."</i>	High
Esteem Support	Acknowledgement/Recognition	AR	Validating efforts, achievements, or personal strengths.	<i>"I know how much you value your work..."</i>	Medium
Information Support	Resourcefulness	RE	Sharing practical advice, tips, or experiences.	<i>"What worked for me was..."</i>	Medium
Companionship	Openness	OP	Checking in, asking how others are, initiating chats.	<i>"Hello everyone, how is everyone doing?"</i>	High
Emotions (Positive)	Sense of Positivity, Strength & Hope	PS	Expressions of optimism, strength, and looking forward.	<i>"It's inspiring... Blessed week to all of you."</i>	Medium
Emotions (Negative)	Overwhelmed/Exhaustion/Helplessness	NE	Expressions of burnout, hopelessness, frustration.	<i>"I feel like a zombie... not worth it anymore."</i>	High
Emotional Support	Advocacy	AD	Encouraging someone to take action for their well-being.	<i>"You must look for other work. Make it a priority."</i>	Medium
Practical Content	Stress Management	SM	Discussions on how to manage stress and anxiety.	<i>"At least it's holidays soon—use it to reflect and reset."</i>	Medium
Practical Content	Financial/Resource Discussions	FR	Talking about financial strain or accessing services.	<i>"Some of my students are sending me job posts."</i>	Low

The five derived themes, findings, and supporting quotations are presented In Table 49 and 52.

Table 49: Themes from the chat data

Theme	Finding	Supported quotations
Social Support and Emotional Wellbeing	The intervention provided emotional support, validation, and advocacy, thereby enhancing resilience, reducing isolation, and fostering a sense of emotional safety (Shifa, Hameed et al., 2025). The quotations show how members received emotional validation and experienced a reduction in feelings of isolation. This was done through regular check-ins, peer validation, and hearing about similar struggles, which offered immediate affective relief (Foxy, 2025) and reduced the impact of stressors on wellbeing (Kim & Jung, 2025). The online service therefore, enhances the SoC by making experiences more comprehensible, manageable, and meaningful (Antonovsky, 1987) and by confirming that peer support improves connectedness	<i>"I feel better after sharing here, thank you all for listening".</i> <i>"It helps to know I'm not alone in this".</i>

	(Ford et al., 2025). Emotional safety on an online platform is under-described in the literature, yet it strengthens the validity of LMIC digital peer models.	
Platform Usability and Participation	WhatsApp was accessible in rural contexts (Maitra et al., 2024). Features such as voice notes, pinned messages, and clear group rules supported ease of use and sustained engagement (AlGhamdi, 2025). These are all lowered barriers to entry and sustained activity on the platform (De, 2025). Studies show that WhatsApp is scalable and acceptable for mental health support in LMICs (Fikani et al., 2025), drives adherence in mobile peer programs (Kiirya et al., 2025), and confirms the practicality of “meet-people-where-they-are” platforms (De et al., 2025).	<p><i>“Thanks for pinning the rules, makes it easier to follow”.</i></p> <p><i>“I prefer sending voice notes because typing is hard when I’m upset”.</i></p>
Belonging, Empowerment, and Identity	Sharing experiences normalised challenges, reduced stigma, and cultivated belonging in the online group. Members reported empowerment through pursuing personal growth (Jin & Wang, 2025). This is because being aware of others’ compromised lived experiences normalises struggles (Foxy, 2025). Documenting their sense of belonging and empowerment in an AP WhatsApp group broadens the evidence base for peer support beyond patient-only strategies (Kiirya et al., 2025).	<p><i>“Hearing your stories makes me feel like I belong somewhere”.</i></p> <p><i>“I finally told my family no, I need space — thank you for encouraging me”.</i></p>
Practical Support and Resource Exchange	Advice- sharing and resource exchange often occurred in this group as participants valued the exchange of advice, coping strategies, and information on local services, complementing emotional and social support (Moecke & Camp, 2025). This means that members actively shared coping strategies and service information alongside emotional care. This function of informational and emotional support is known to co-occur in internet support groups (Liu et al, 2022).	<p><i>“Here’s the number of a counselor in Worcester who helped me”.</i></p> <p><i>“I try to write things down when I feel overwhelmed — maybe it will help you too”.</i></p>
Group Culture and Sustainability	A cohesive group identity emerged, characterized by empathy, confidentiality, and encouragement (Lenz et al., 2025). Although engagement fluctuated, quick check-ins and motivational posts helped maintain participation over time. The quotations reflect shared sayings, group identity, and sustained engagement. These ritual phrases kept the group cohered and confirmed that facilitation, together with group norms are important – just as much as the platform (Roald et al., 2025). Specific micro-practices (mantra-based culture) are actionable sustainability mechanisms that many studies don’t articulate.	<p><i>“Remember the small wins, that’s what keeps us going”.</i></p> <p><i>“Even when I don’t chat, I listen to your voice notes, and it keeps me motivated”.</i></p>

Overall finding	The study found that a WhatsApp-based peer support intervention strengthened emotional well-being, resilience, and connectedness among APs supporting individuals with addiction in rural, low-resource contexts. Through the practice of emotional validation, practical resource exchange, and shared identity, participants experienced reduced isolation and stigma while gaining empowerment and coping strategies. Usability features such as check-ins sustained participation and created a supportive group culture. These mechanisms align with Antonovsky’s Sense of Coherence (1987) theory by making challenges more comprehensible, manageable, and meaningful. The findings confirm that WhatsApp is a scalable tool for psychosocial care, while adding new evidence on design-level practices that sustain engagement. This has important implications for practice (adopting structured digital peer groups), policy (funding AP-oriented digital programmes), and research (testing which micro-practices drive retention and outcomes).
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5.10.4.2 Participation

The participation in the online peer-led intervention was a critical indicator of its effectiveness and engagement. A total of 17 participants actively joined the intervention during the designated period, contributing to a total of 44 chat sessions. On average, 10 participants engaged in each conversation, with varying levels of activity ranging from frequent contributions to occasional check-ins. These chats covered diverse topics, including coping strategies, emotional well-being, and community resources, reflecting the multifaceted needs of APs.

Despite the generally positive engagement, several challenges emerged. Sporadic participation was observed among some members, often due to external factors such as time constraints, connectivity issues, or personal stressors. Additionally, ensuring consistent activity within the group required the facilitator to provide continuous facilitation and outreach. A few technical issues, including delayed notifications and navigation difficulties on the platform, also impacted the user experience. These challenges highlight the need for improved technical support, tailored engagement strategies, and flexibility in accommodating participants' availability to foster sustained and meaningful involvement.

Table 50: Online participation reflections questions

1. About the online service: what contributed towards a positive experience of the service?
2. About the online service: what contributed towards a negative experience of the service?
3. What would you like to share about the relationship formed with the facilitator/client during the chat session?

4.	What would you like to share about the communication during the chat session?
5.	What was positive or challenging about the technology in this kind of service?
6.	What are your comments about the topics for which assistance was needed?
7.	What are your comments about the access to such a service based on the needs of clients?
8.	What are possible ethics concerns of such a service, in your opinion?
9.	What in your opinion could cause distress when using such a service and being confronted with a difficult situation a person has experienced? If this is not a concern you can skip this question.
10.	Anything else that you think is important for such a service to be useful? Please comment on the online service and training.

At the end of Phase 2, online questions were posted to enable the participants to reflect on their experience of using the proposed BEACON OF HOPE digital intervention. The ten questions were based on insights from the literature on online support services, with a particular focus on user satisfaction, accessibility, and ethical concerns. Seventeen responses were received, resulting in five derived themes. The theme findings with supporting quotations, based on the responses, are presented in Table 52.

Table 51: Participation reflection themes

Theme	Finding	Supporting quotation
User Experience and Satisfaction	This theme combines participants' overall experiences with the online support service, which include both positive aspects (e.g., convenience, anonymity, ease of navigation) and negative experiences (e.g., technical issues, privacy concerns). It reflects participants' satisfaction with the service and their suggestions for improvement to enhance user experience.	<i>"The anonymity and it was easily accessible. It was good to talk to someone that were available at the click of a button. And who could assist when I had time. I didn't have to make special arrangements to access the service, it was very convenient".</i>
Facilitator-Client Relationship	Participants' perceptions of their interactions with the facilitator during chat sessions form this theme. It includes descriptions of the trust built and communication dynamics experienced between participants and the facilitator. This theme captures varied experiences, ranging from feeling understood and valued to feeling disconnected.	<i>"The fact that the person spent time with me. Without being in a hurry".</i>
Communication and Support	This theme focuses on the effectiveness of communication during chat sessions and the support provided by the facilitator. Participants' comments regarding feeling heard, receiving	<i>"There was prompt service, good guiding questions and was reliable and I felt safe to speak".</i>

	valuable information, and the absence of judgment are forthcoming under this theme. It shows the importance of effective communication in facilitating open dialogue and fostering a supportive environment.	
Technology-Related Challenges	Participants' experiences and concerns related to the technical aspects of the online support service constitute this theme. It includes discussions about accessibility, data usage, platform navigation, and technical glitches encountered during chat sessions. The theme highlights the impact of technology on user experience and suggests areas for improvement.	<i>"I could use another name other than my own. It was in chat form. I liked that I could type and not talk. I could be myself. And express my emotions. It was easy to navigate on the platform. It was private".</i>
Ethical Considerations and Emotional Responses	This theme entailed participants' ethical concerns, such as privacy and confidentiality, as well as their emotional responses during counseling sessions. It reflects on the potential distress associated with discussing sensitive topics and the importance of maintaining trust and confidentiality in online counselling services. Additionally, it highlights the protective role of anonymity and participants' suggestions for ensuring ethical practice.	<i>"The privacy. I can stop and go on as I see fit".</i>
Overall finding	Anonymity lowered challenges as the online support service was seen as safe, easy to use, and useful. In order to promote trust, transparency, and emotional relief, participants appreciated the facilitator's attentiveness and encouraging communication. In line with the Sense of Coherence concept, the platform improved meaningfulness, manageability, and comprehensibility. Although overall satisfaction was high, sustained participation requires ongoing attention to privacy, secrecy, and technical reliability.	

5.10.4.3 Sentiment

Sentiment analysis revealed fluctuations in emotional tone, with discussions reflecting both challenges and moments of optimism. Positive sentiments emerged around shared successes and mutual encouragement, while negative sentiments highlighted areas requiring additional support, such as grief and frustration.

5.10.4.4 Content

Content analysis categorized participant contributions, identifying the frequency of specific topics and resources mentioned. Commonly discussed areas included financial management, stress coping mechanisms, and access to institutional support. This analysis ensured the repository remained relevant and responsive to participants' evolving needs.

5.11 Prototype - Proof of concept evaluation

The proof-of-concept evaluation proved the feasibility and appropriateness of the peer-led online social support intervention. Participants validated the platform's structure and goal by actively using it. User experience, functionality, and the intervention's ability to meet APs' Social support requirements were the main areas of evaluation. Participants' feedback emphasised the benefits of a centralised resource library, the ease of access, and the efficacy of peer-led facilitation. Issues, including irregular involvement and technical limitations, were noted, prompting suggestions to improve user interaction and streamline the platform's functionality.

5.12 Peer-led online social support analysis

The results of the peer-led intervention emphasised the transformative potential of shared experiences in fostering resilience and reducing isolation. Participants expressed gratitude for the empathetic environment where they could share their stories and receive validation numerous times. The intervention significantly improved emotional well-being, with participants reporting reduced stress and enhanced coping mechanisms. Peer facilitation was particularly effective in building trust and creating a non-judgmental space, empowering participants to take an active role in their own support network. These findings underscore the importance of involving APs as facilitators and contributors to the intervention.

5.13 Reflect and feedback

The moderator played a pivotal role in ensuring the success of the intervention. Moderation practices emphasised empathy, inclusivity, and consistency, creating a safe and productive environment for participants. Reflecting on existing moderation practices, several key insights emerged:

- Existing Practices and Approaches: The moderator adhered to structured facilitation guidelines, balancing the need to steer discussions while allowing organic peer interactions. The use of probing questions, conflict resolution techniques, and consistent engagement fostered participants' trust.
- Challenges or Problems: Common challenges included maintaining participant engagement over time and addressing sensitive issues with cultural sensitivity. Technological barriers, such as unfamiliarity with the platform, also posed difficulties.
- Impacts and Consequences: Effective moderation fostered a positive group dynamic, enhancing emotional resilience and peer bonding. Conversely, lapses in moderation occasionally led to participant withdrawal.
- Recommendations and Future Directions: Future moderation strategies should prioritize cultural competency training and continuous professional development for moderators. Platforms must integrate tools for automated moderation support, ensuring consistent oversight without compromising empathy.
- These reflections, guided by Jiang, Ren et al. (2021), provide a framework for optimizing moderation practices in online peer support environments.

5.14 Digital peer-to-peer social support intervention design findings

A WhatsApp-based support group is a very efficient, easily available, and emotionally secure platform for APs helping loved ones who are struggling with substance addiction, according to the design findings from the OPSSG intervention. To ensure it fulfilled psychological needs, the intervention was deliberately grounded in Social Support Theory and the SoC framework. The iterative process of creating, testing, and improving the prototype demonstrated the importance of balancing emotional safety and functionality, especially for participants living in underprivileged, rural areas with limited access to digital infrastructure.

Core recurrent themes, including emotional resilience, the continuous stress of caregiving, and the importance of peer validation from the community, were identified through thematic analysis of the group interactions. The difficulties of handling stress, work-related exhaustion, family issues, and the emotional toll of helping loved ones who are struggling with addiction were all frequently mentioned by participants. Strong stories of support, empathy, hope, and encouragement surfaced at the same time, demonstrating how well the group served as an environment for both releasing emotions and fostering resilience. For example, statements like *"Don't be too hard on yourself"*. The statements *"We care and are here to listen"* and *"You are capable, strong, and deserving of a healthy space"* demonstrated the group's strong sense of emotional support and respect. There were also numerous instances of advocacy, where participants actively urged one another to prioritize mental health, establish boundaries, and seek

safer settings in addition to showing empathy—for example, by saying, *"You must look for other work"*. Give it top priority.

Emotional variations within the group were also evident in sentiment analysis. While negative attitudes were apparent during conversations about grief, weariness, workplace hostility, or family issues, positive sentiments peaked during check-ins, the sharing of encouraging content, and group celebrations of *"small wins"*. By incorporating emotional check-ins, pinned resources, planned weekly activities, and a focus on voice notes for accessibility, the intervention design was able to modify its tactics in response to this real-time emotional pulse.

Based on content analysis, participants' practical requirements as well as their emotional needs were reflected in their frequent requests for and sharing of information regarding coping mechanisms, financial burdens, stress management, and access to outside resources. According to the coding matrix, the most commonly shared type of support within the group was emotional support, including advocacy, understanding, encouragement, and compassion. Mutual check-ins, openness, and companionship were essential to establishing a feeling of community, and esteem support - which included acknowledgment and validation - increased participants' sense of action and self-worth.

Usability issues that are common in rural areas, like limited data, device storage, and intermittent connectivity to the internet, were addressed during the intervention's refinement phase. File compression, pinned postings to make group navigation easier, and promoting voice notes and other low-data communication methods were some of the solutions. Additionally, by continuously reiterating respect, secrecy, and a nonjudgmental environment, the group structure fostered emotional safety.

The results indicate that digital peer-to-peer interventions can offer significant emotional, informational, and practical support when grounded in solid psychosocial theories and tailored to users' contextual circumstances. In addition to reducing feelings of powerlessness and loneliness, the OPSSG helped impacted individuals navigate the difficult obstacles of substance abuse in their families by promoting agency, resilience, and empowerment. This strategy has abundant potential for wider use in comparable underserved populations.

5.15 Chapter conclusion

This chapter outlined the design, execution, and evaluation of a peer-led online social support intervention for APs affected by substance addiction. The findings emphasised the importance of

accessible, empathetic, and culturally relevant support systems. While the intervention demonstrated positive outcomes, challenges such as technological barriers and sustained engagement require further exploration. Future research should focus on refining the intervention for diverse populations, examining the long-term effects of peer-led support, and integrating advanced technologies to enhance moderation. These directions will ensure that the intervention continues to evolve in addressing the dynamic needs of APs.

CHAPTER 6:

DISCUSSION

6.1 Introduction

This chapter delves into the findings from the intervention aimed at supporting APs who provide care for individuals with substance addiction. The intervention's use of social media platforms facilitated peer-led support, provided access to relevant resources, and encouraged active engagement in a safe, inclusive virtual community. Participants shared their experiences, received validation, and developed coping mechanisms, which contributed to an overall improvement in emotional wellbeing and sense of connectedness. The repository of resources and continuous facilitation addressed diverse challenges, including financial strain, stigma, and emotional distress.

This discussion will explore the implications of these findings, focusing on their relevance to the broader goals of AP support systems. Key themes such as emotional resilience, the significance of peer validation, and the role of technology in delivering accessible support will be critically analysed. Additionally, the chapter will examine the challenges encountered during the research process, including technological barriers and irregular engagement, and discuss how these insights can inform future adaptations of the intervention.

The chapter is structured as follows: the first section analyses the significance of the intervention's key findings, linking them to existing literature and theoretical frameworks. The second section discusses the challenges faced during the intervention and the strategies employed to address them. The final section provides recommendations for refining the intervention and its application in similar contexts.

6.2 Summary of key combined findings for Phase 1

Next, the combined themes derived from the four data sets linked to the four data collection methods, are discussed. In Table 52, the data collection instruments linked to the themes indicate that community support is the only theme that reflects the data from all the data collection instruments. The diary data appears in all the themes except the self-development theme. Data for the addiction consequences theme were only present in the participants' diaries. It is clear that the use of different data collection instruments led to a more comprehensive view of the APs' lived experiences.

Table 52: Themes from data collected in Phase 1

Themes	Instrument			
	Body mapping	Stakeholder mapping	Interviews	Diary
1. Addiction consequences				X
2. Community support	X	X	X	X
3. Family dynamics	X	X		X
4. Lived experience	X		X	X
5. Self-identity			X	X
6. Self-development	X		X	
7. Social support dynamics		X	X	X
8. Wellbeing	X		X	X

The combined findings of the four data sets include eight combined themes and thirty-six themes. Themes such as community support, lived experience, and wellbeing were notable, highlighting the social, emotional, and personal factors influencing individuals. In Table 53, the combined themes, themes, and level of analysis, similar to Table 33, in Chapter 4, Subsection 4.5, are presented.

Table 53: Combined themes

Theme	Combined Theme	Theme	Level of analysis
1	Addiction consequences	Addiction and Its Consequences	Me+
		Financial Strain and Theft	
2	Community support	Challenges in the Environment	Me++
		Community and External Influences	
		Lack of Community and Institutional Support	
		Service delivery	
		Potential of Toevlug as a Key Support Service	
		Social Support Networks and Community Influence	
		Violence and Safety Concerns	
Legal Problems and Incarceration			
3	Family dynamics	Family Conflict and Tension	Me+
		Family Influence and Self-Perception	
		Mixed Family Influence	
		Impact on Extended Family and Friends	
4	Lived experience	Sense of Meaning and Purpose	Me
		Reflection on Life and Experiences	

		Resilience and Coping Strategies	
		Adaptability to Change and new situations	
		Coping Mechanisms	
		Coping and Prayer	
5	Self identity	Self-Discovery and Identity Construction	Me
		Personal Identity and Self-Reflection	
		Manageability and Symbolic Representation	
6	Self-development	Personal Fulfilment and Control	Me
		Artistic Exploration and Self-Expression	
		Career, Education, and Personal Fulfilment	
7	Social support dynamics	Social Acceptance and Relationships	Me+
		Spiritual Support over Social Support	Me
		Spiritual and Religious Beliefs	Me
		Interpersonal Relationships and Trust Issues	Me+
		Social Support	Me+
8	Wellbeing	Emotional Wellbeingand Stability	Me
		Disposition (Life Orientation)	
		Emotional Expression and Vulnerability	
		Emotional Impact and Distress	
		Emotional Connection and Reflection	

Each combined theme, along with its associated theme, is discussed next, compared with existing studies, supported by participant quotations, and aligned with the SoC Theory.

6.2.1 Combined Theme 1: Addiction consequences

Table 54: Addiction consequences discussion, findings and supporting quotations

Combined Theme 1	Addiction consequences (Me+)	
Subtheme	Discussion	Supporting Quotations
Addiction and Its Consequences	<p>Despite their best efforts, families frequently find no effective resolution, leaving them in a state of desperation and hopelessness as they witness the problem persist or worsen. This continuous struggle highlights the pervasive and multifaceted impact of addiction, affecting every aspect of the lives it touches (Cleveland Clinic, 2025). This is evident by the statements that highlight the long-term effects of drug addiction on an individual's life, emphasising how substance abuse has visibly and significantly had a negative effect on their well-being.</p>	<ul style="list-style-type: none"> • <i>"It all started with my drinking habits...I am the cause of so many of the problems. I wish I could turn things back" (p1) and</i> • <i>"...and now it feels like I have no control over things that are going on" (p1).</i> • <i>"By calculating the time he's been doing drugs, it is obvious that it has taken a toll on his life." (p13)</i>
Financial Strain and Theft	<p>The quotations provided highlight the significant financial strain and theft associated with addiction (Dykes & Casker, 2021). The financial consequences become evident as another respondent indicated the theft of valuable items. This is further emphasised by pointing to substantial financial losses. And the act of stealing money via bank cards. These quotations collectively underscore the financial burden and theft that families experience as a result of a loved one's addiction.</p>	<ul style="list-style-type: none"> • <i>"When we found out my son had an addiction problem..." (p2),</i> • <i>"Items of value disappeared. He just denied it..." (p14),</i> • <i>"Large amounts of money have now disappeared..." (p14),</i> • <i>"Thousands of rands were drawn..." (p14)</i> • <i>"He takes our bank cards then withdraws money..." (p14)</i>
Discussion	<p>The finding shows that addiction has profound implications that extend beyond the individual. It leaves APs in a state of hopelessness and desperation as the problem persists (Mayo Clinic, 2025; National Institute on Drug Abuse [NIDA], 2020). This continuous burden affects multiple domains of life, including emotional, social, and financial well-being, highlighting the interwoven nature of personal and family hardships (Mayo Clinic, 2025). Financial strain, such as loss of income and theft of possessions, is a common consequence experienced within families, which further compounds emotional distress and contributes to feelings of helplessness (Hanley Foundation, 2024). These struggles indicate the broader societal</p>	

	implications of addiction, demonstrating how individual substance use can ripple through families and communities (Project Courage Works, 2025). Compared to existing literature, these findings both confirm prior knowledge on the multidimensional impact of addiction and wide-scale ramifications by emphasizing the cumulative and continuous nature of these effects on family and social systems. The consistent among financial, emotional, and social stressors underscore the coordinated interventions targeting both individuals and their support networks are critical for addressing these challenges. The findings also underscore the urgent need for coordinated interventions that address both personal recovery and family support systems.
Alignment to SoC theory	Comprehensibility is disrupted as APs experience ongoing hopelessness and desperation. This makes it difficult to make sense of the persistent and emotional, social, and financial hardships. Manageability is weakened by resource constraints, such as financial strain, loss of income, and theft, which leave families feeling helpless and unable to cope with the demands created by addiction. Meaningfulness is also disrupted, as APs find it difficult to seek purpose in their efforts amidst distress.

6.2.2 Combined Theme 2: Community support

Table 55: Community support discussion, findings and supporting quotations

Combined Theme 2 Community Support (Me++)		
Theme	Discussion	Supporting quotations
Challenges in the environment	The quotes illustrate the difficult environmental factors that families, who are dealing with addiction face, including gang violence and legal issues surrounding drug use (Mardani et al., 2023).	<ul style="list-style-type: none"> • <i>"Gangsters tried to kill my son. I had to intervene..."</i> • <i>"This morning there was a struggle to get Duvanhe awake for school..." (p2)</i> • <i>"At one point marijuana was legalized..." (p16)</i>
Community external influences	Community and external influences, such as gang activities and drug legalisation, impact individuals and families, as evidenced by the supporting quotations (Tewari, Berdychevsky & Stodolska, 2025).	<ul style="list-style-type: none"> • <i>"Gangsters tried to kill my son. I had to intervene..." (p2)</i> • <i>"At one point marijuana was legalized..." (p16)</i>
Lack of community and institutional support	The pervasive impact of addiction extends beyond the immediate family to affect the broader community and social relationships (Oluwole et al., 2024). The stigma and judgment from others can lead to feelings of isolation and reluctance to seek help. This societal	<ul style="list-style-type: none"> • <i>"it feels like being punished twice. First the drugs punish you and then the community because they look down on you because they judge you" (p1)</i>

	<p>condemnation exacerbates the struggles of addiction, making recovery and support even more challenging (Tewari et al., 2025).</p> <p>A lack of proactive support from institutions, with the police involved only after problems have escalated is suggested by the following quotation:</p>	<ul style="list-style-type: none"> • <i>"The police came to report that they had arrested the child..." (p16).</i>
Service delivery	<p>This subtheme highlights the critical role of institutions and individuals in addressing community challenges and ensuring public welfare (Mohamed & Bashir, 2024). The quote underscores the proactive involvement of representatives in addressing substance abuse issues, demonstrating a commitment to community safety. Similarly, it reinforces the notion that effective governance prioritises meeting citizens' needs, emphasising the importance of accountability and action in service delivery. Together, these quotes reflect the interconnected efforts of individuals and government in fostering responsive and impactful community support systems.</p>	<ul style="list-style-type: none"> • <i>"This afternoon I have to attend a meeting with the municipality to investigate as a representative in secret to identify the drug houses,"(p1)</i> • <i>"The essence of government is service to the people," (p1)</i>
Potential of rehabilitation facility as key support service provider	<p>The subtheme highlights the organisation's integral role in addressing community challenges and providing essential support to APs (Mohamed & Bashir, 2024). As one participant stated, this reflects Toevlug's strong reputation and capability in offering impactful support services.</p> <p>Another participant expressed their trust and reliance on the organisation. These sentiments underscore Toevlug's potential to play a pivotal role in expanding peer-led interventions and solidifying its place as a key resource for the community.</p>	<ul style="list-style-type: none"> • <i>"Toevlug has consistently demonstrated its commitment to community welfare, fostering a supportive environment that empowers individuals to overcome challenges. Their dedication and expertise position them as ideal candidates to lead a peer support-led service, providing vital assistance to those in need" (p7).</i> • <i>"Toevlug has always been there for us" (p8).</i>

Social Support Networks and Community Influence	Social support networks are important and community members can influence each other's wellbeing (Amin et al., 2025) as seen by the supporting quotations.	<ul style="list-style-type: none"> • <i>"My colleague arrived at work very upset..."She was in tears and it upset me a lot. She is a very good person with a good heart and to see her hurt..." (p16)</i>
Violence and safety concerns	<p>Addiction challenges convey a significant sense of fear and trauma (Russell et al., 2025) as experienced by the respondents. It suggests events that posed a serious threat to the individual's safety or well-being. These intense emotional reactions imply that the respondents were exposed to violent or dangerous circumstances, highlighting the pervasive impact of violence and safety concerns on individuals dealing with addiction-related issues. The fear described underscores the urgent need for effective interventions and support systems to address and mitigate these safety concerns.</p> <p>These quotes also illustrate the dangerous environments faced by families dealing with addiction. Violent encounters highlight the dire circumstances that arise from addiction, necessitating desperate measures to protect loved ones. Similarly, quotes reveal the destructive behaviour that addiction can trigger within familial relationships, causing significant property damage and escalating tensions. The interpersonal violence extends to verbal abuse as well, with quotes indicating how addiction can lead to emotional harm and verbal aggression within the household. Lastly, the conflict described further illustrates how addiction can strain friendships, leading to altercations and social discord (Titlestad et al., 2025). These quotes collectively highlight the pervasive violence and safety concerns that afflict individuals and their families grappling with addiction, painting a vivid picture of the constant turmoil and danger they endure</p>	<ul style="list-style-type: none"> • <i>"...It was probably the scariest moment of my life." (p4)</i> • <i>"Gangsters tried to kill my son. I had to intervene..." (p1)</i> • <i>"My brother had purposely damaged my car..." (p16)</i> • <i>"He spoke more loudly and insulted his sister..." (p2)</i> • <i>"He will belittle him by calling him ugly names..." (p16)</i> • <i>"On a Saturday night he had a falling out with his best mate..." (p16)</i>

<p>Legal problems and incarceration</p>	<p>In the theme of legal problems and incarceration, several quotes vividly depict the harsh realities faced by families dealing with addiction. The immediate legal consequences that can arise from substance abuse, bring about not only the distress of an arrest but also the involvement of law enforcement in family matters. These situations are further exemplified highlighting the ongoing cycle of legal troubles and the emotional strain on family members when a loved one is repeatedly incarcerated (National Institute on Drug Abuse, 2020). Additionally, these quotes highlights the direct link between addiction and criminal activity, as possession and use of illegal substances often result in legal repercussions (Gomes & Paccione-Dyszlewski, 2025). These quotes collectively underscore the significant and often devastating impact of legal issues and incarceration on families dealing with addiction, emphasising the ongoing struggles and challenges they face within the judicial system.</p>	<ul style="list-style-type: none"> • <i>"The police came to report that they had arrested the child..." (p16).</i> • <i>"Her brother was locked up over the weekend..." (p16).</i> • <i>"He was caught with drugs by the police..."(p16).</i>
<p>Discussion</p>	<p>The findings highlight the harsh realities faced by APs living in unsupportive environments, where communities are often characterised by violence, gangsterism, and inadequate legal frameworks. These all complicate recovery and safety (American Addiction Centers, 2025). Stigmatisation and judgment from members of the community further isolate APs thus delaying help-seeking and reinforcing feelings of shame and rejection. Institutional responses are absent or insufficient, and this forces families to cope without meaningful support until challenges escalate. Notwithstanding these challenges, there are signs of hope in proactive, trustworthy organisations such as Toevlug and committed community members who provide essential emotional and practical support. These findings confirm the existing literature on the damaging impact of unsupportive and unsafe environments while offering insight into the potential of community-based approaches to mitigate harm. They reinforce the urgent need for coordinated support systems and responsive environments to facilitate recovery and family well-being.</p>	
<p>Alignment to SoC theory</p>	<p>Comprehensibility is undermined in unsupportive environments marked by violence, gangsterism, and inadequate legal support, which create unpredictability and prevent APs from making sense of their circumstances. Manageability is weakened</p>	

	by stigmatisation, insufficient institutional responses, and a lack of structural support, leaving families with limited resources to cope and increasing their sense of isolation and helplessness. Meaningfulness is diminished when APs experience rejection and shame; however, it is worth noting that the presence of trustworthy organisations such as Toevlug and supportive community members offers opportunities to restore meaning by fostering belonging, validation, and hope.
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6.2.3 Combined Theme 3: Family dynamics

Table 56: Community support discussion, findings and supporting quotations

Combined Theme 3	Family Dynamics (Me+)	
Subtheme	Discussion	Supporting quotations
Family conflict and tension	<p>Family members of addicts endure constant fear (Harper, 2025). Parents, in particular, grapple with profound sorrow and a sense of failure, feeling that they did not instill a different path for their children (Meen et al., 2025). The emotional toll is further compounded by the chronic stress and anxiety of waiting for the next crisis, as one parent said, which captures the emotional turmoil and distress within the family due to the child's addiction, highlighting the ongoing conflict, feelings of helplessness, and the tension between the parent and child. Several quotes highlight the emotional strain and discord caused by addiction. This reflects the deep-seated identity and relational conflicts that can arise, causing hurt and division within the family, further exacerbated by verbal abuse and strained sibling relationships (Bhowmick et al., 2025). The turmoil extends beyond the immediate family, as shown by indicating that addiction-fueled conflicts often disrupt friendships as well (Titlestad et al., 2025).. These quotes collectively paint a picture of a family environment fraught with conflict and emotional pain, highlighting the pervasive and damaging effects of addiction on family dynamics.</p>	<ul style="list-style-type: none"> • <i>"probably the scariest moment of my life" (p4).</i> • <i>"I can't get it out of my head. I did not teach him this life" (p6).</i> • <i>"...it's not the same as just having a problem with a child who is sick. My child only brings me tears and silent screams, dread of what the next knock or phone call brings" (p7).</i> • <i>"My child only brings me tears and silent screams, dread of what the next knock or phone call brings. I see my child and I am not glad, I wish I could save my child. I can see how scared my child is in her eyes. Her eyes are fearful. I can just hope that things get better. I want to feel and hug my own child again like when she was younger. This is not my fault, that I did nothing wrong, there's little I can do. Is there a cure for this? People tell me to be strong but my life is standing still while my friends and relatives move on" (p7).</i> • <i>"He started insulting that he is not our child..." (p1).</i> • <i>"He spoke more loudly and insulted his sister..." (p2).</i> • <i>"On a Saturday night he had a falling out with his best mate..." (p14).</i> • <i>"My brother and I had an argument the night before..." (p22).</i>

<p>Family influence and self-perception</p>	<p>The quotes reflect a parent's anguish and guilt about their child's life choices, despite not having instilled those behaviours (Meen et al., 2025). It emphasises the internal conflict and self-perception of the parent in relation to their influence on the child's life and reflects on how the sibling's addiction has influenced the individual's perception of themselves and their role within the family, highlighting feelings of inadequacy and self-blame. It illustrates the self-blame and perceived failure of a family member for not recognising the signs of addiction sooner, highlighting their emotional vulnerability and internal conflict and reveals how addiction can distort an individual's sense of identity and relationships (Sharma & Shrotriya, 2025). The first quote indicates a profound rejection of familial ties and identity, suggesting a struggle with self-perception influenced by addiction. This denial of belonging can lead to feelings of alienation (Kaur & Kaur, 2025) and confusion within the family structure (Mwaanga & Felix, 2025). The second quote highlights how these internal conflicts manifest outwardly, affecting interactions with family members (Mwaanga & Felix, 2025). By speaking loudly and insulting his sister, the individual demonstrates how addiction can exacerbate negative behaviors and strain familial relationships, further complicating the family dynamics and impacting everyone's self-perception within the family unit (Mwaanga & Felix, 2025). These examples underscore the deep and multifaceted ways addiction can influence an individual's identity and their perception of family bonds (Montes et al., 2025).</p>	<ul style="list-style-type: none"> • <i>"I can't get it out of my head. I did not teach him this life" (p6).</i> • <i>"I often feel like I'm not good enough, especially when I see how my sibling's addiction has affected our family. I keep thinking, 'What could I have done differently?'" (p22).</i> • <i>"I blame myself for not seeing the signs earlier. It feels like I failed as a family member" (p11).</i> • <i>"He started insulting that he is not our child..." (p1).</i> • <i>"He spoke more loudly and insulted his sister..." (p14).</i>
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<p>Mixed family influence</p>	<p>This subtheme explores the varying levels of support and influence within family dynamics, with some family members providing crucial emotional support while others may be less engaged. One participant's shared statement highlights the contrast between family members' responses to challenges, with some individuals playing a vital role in offering support while others may be distant or less involved. The mixed nature of family influence highlights the complexities individuals face when seeking assistance, with some family members a source of strength and others a potential challenge to the healing or support process (Pyecha, 2025).</p>	<ul style="list-style-type: none"> • <i>"My sister is very supportive in my problems but not my father..." (p5).</i>
<p>Impact on extended family and friends</p>	<p>Siblings experience emotional struggles and self-doubt due to their loved one's addiction and its impact on the family (Meen et al., 2025). It highlights the perceived influence of family and the emotional burden of wondering what actions could have been taken.</p> <p>The quotes, illustrate the far-reaching emotional and practical consequences of addiction. The first quote reveals how addiction leads to immediate and tangible disruptions, such as preventing someone from getting to work. The subsequent quotes delve into the emotional toll this situation takes, not just on the individual directly affected, but also on those around them. Seeing a colleague in tears and upset evokes empathy and distress in others, highlighting the ripple effect of addiction's impact. These examples show how addiction doesn't just affect the individual struggling with it but also significantly impacts their extended family and friends, leading to widespread emotional distress and disruptions in daily life.</p>	<ul style="list-style-type: none"> • <i>"I often feel like I'm not good enough, especially when I see how my sibling's addiction has affected our family. I keep thinking, 'What could I have done differently?'" (p22).</i> • <i>"My colleague couldn't get to work because her brother stole her car keys...My colleague arrived at work very upset. She was in tears and it upset me a lot..." (p16).</i> • <i>"She is a very good person with a good heart and to see her hurt..." (p16).</i>

Discussion	Family life is disrupted by addiction because it enhances conflict, emotional distress, and breaks down relationships (Harper, 2025). Parents of children suffering from addiction experience fear, helplessness, and heartbreak as they watch their children struggle with addiction, often blaming themselves for failing to prevent it (Chen et al., 2025). Within households, emotional burdens are further intensified by verbal outbursts, strained sibling relationships, and heightened tension. These difficulties are commonly internalised as guilt and self-doubt, creating a poor sense of identity, as individuals question their roles and contributions to the problem (O’Dowd et al., 2025). Support within families is often inconsistent as some members provide unwavering emotional assistance, while others remain detached—making the healing process more complex. Furthermore, the effects of addiction extend beyond the immediate family, as it disrupts the lives of extended relatives and friends. This causes distress and demonstrates the ripple effect of addiction across family systems, indicating that no member is left unaffected (American Addiction Centers, 2025).
Alignment to SoC theory	Comprehensibility is threatened as family members struggle to make sense of the conflict, strained relationships, and emotional volatility within the household. This causes internalisation of guilt and self-blame. Manageability is compromised by inconsistent support within families—while some members offer emotional support, others remain detached—leaving APs without stable resources to cope with ongoing challenges. Meaningfulness is eroded as parents and siblings experience fear, helplessness, and self-doubt, questioning their roles and contributions in the face of addiction.

6.2.4 Combined Theme 4: Lived experience

Table 57: Lived experience discussion, findings and supporting quotations

Combined Theme 4		Lived Experience (Me)
Subtheme	Discussion	Supporting quotations
Sense of meaning and purpose	The quote indicates that the individual finds meaning in everyday actions and relationships (Baena et al., 2025), underscoring their personal sense of meaning and purpose outside of religious practices.	<ul style="list-style-type: none"> <i>"I respect other people's beliefs, but religion has never been a part of my life. I find support through friends and hobbies...For me, it's about finding meaning in everyday actions and relationships rather than through religious practices" (p21).</i>
Reflection on life and experiences	This quote reflects on the personal recognition of addiction and its negative impact on one's life and relationships (Baena et al., 2025). The AP acknowledges their drinking habits as the root cause of many problems, illustrating the detrimental consequences of addiction and also expressed that they wish they were	<ul style="list-style-type: none"> <i>"It all started with my drinking habits...I am the cause of so many of the problems. I wish I could turn things back" (p1).</i>

	able to turn back time as they reflect on past actions, indicating a deep reflection on life and experiences.	
Resilience and coping strategies	Despite these overwhelming challenges, some individuals find strength and resilience through personal growth and coping strategies (Cutamura et al., 2025). Learning to stay calm and taking things one step at a time becomes a survival mechanism (Henning, 2025) and indicates the APs' ability to stay calm, focus on strengths, and recognise progress as coping mechanisms for dealing with challenges.	<ul style="list-style-type: none"> • <i>"Despite everything, I've learned to stay calm and take things one step at a time. I know my strengths, and I focus on them" (p7).</i>
Adaptability to change and new situations	These quotes demonstrate the individual's ability to adapt by taking things one step at a time and acknowledging the progress made despite difficulties, showing adaptability in handling life changes.	<ul style="list-style-type: none"> • <i>"I've made a lot of progress. It's not easy, but I remind myself of how far I've come rather than how far I still have to go" (p18).</i>
Coping mechanisms	By staying calm, focusing on strengths, and acknowledging progress, the individuals demonstrate effective coping mechanisms that help them navigate difficult situations. These approaches are crucial for maintaining mental and emotional wellbeing amidst challenges (Henning, 2025).	<ul style="list-style-type: none"> • <i>"Despite everything, I've learned to stay calm and take things one step at a time. I know my strengths, and I focus on them" (p7).</i> • <i>"I've made a lot of progress. It's not easy, but I remind myself of how far I've come rather than how far I still have to go" (p18).</i>
Coping and prayer	The quote underscores the role of faith and spirituality in managing the challenges of a loved one's addiction (Isbilen & Kaplan, 2025). The act of praying while sitting on the bed signifies seeking solace and strength through spiritual means during moments of distress. The quote reflects a proactive stance in using religious beliefs to combat negative influences and offer support. It further illustrates how individuals turn to prayer and faith as coping mechanisms to navigate the emotional turmoil and maintain hope in the face of adversity.	<ul style="list-style-type: none"> • <i>"I sat on my bed and prayed for him..." (p6) and "I told him that I refuse the lies that the enemy presents to him..." (p1).</i>

Discussion	The finding highlights that APs show resilience, adaptability, and meaning-making in response to the challenges of addiction (Rushton et al., 2025). This suggests that APs are not only passive sufferers but they also act as agents who draw on personal, spiritual, and social resources to manage disruption and uncertainty. Their potential to reflect on past choices, embrace hope, and find strength in faith and connectedness illustrates how coping strategies are formed and sustained in challenging circumstances. These insights are important because they show the need for supportive interventions that recognise and build on resilience already present, rather than focusing solely on vulnerability. The finding is consistent with the existing literature, which points to spirituality, religious coping, and connectedness as protective factors (e.g., providing hope, purpose, and emotional stability), but it also extends this body of knowledge by emphasising adaptability and reflective awareness as key dimensions of resilience. This perspective differs from much of the addiction literature, which often frames APs primarily in terms of burden and distress. By emphasising development and empowerment, the study adds depth to the understanding of resilience in the context of addiction and highlights the value of culturally and contextually relevant approaches to support.
Alignment to SoC theory	Comprehensibility is supported as APs engage in reflective awareness, making sense of their circumstances by drawing on past experiences and spiritual frameworks. Manageability is established through the use of personal, social, and spiritual resources, which provide means to cope with disruption and uncertainty. Meaningfulness emerges as APs find hope, purpose, and emotional stability through faith, connectedness, and adaptability.

6.2.5 Combined Theme 5: Self-identity

Table 58: Self-identity discussion, findings and supporting documents

Combined Theme 5	Self-identity (Me)	
Subtheme	Discussion	Supporting quotations
Self discovery and identity construction	<p>This subtheme reflects participants' deep engagement with their bodies as a means of exploring their identity and prompted participants to reflect on their physical self-image and its connection to their overall sense of identity (Smith et al., 2025).</p> <p>Another participant shared, highlighting the empowering nature of the exercise in fostering self-awareness (Sippel & Ucelo Jiménez, 2025).</p>	<ul style="list-style-type: none"> • <i>“Tracing my body outline made me more aware of my physical presence and the space I occupy. It was a powerful experience to see my body's shape on paper, and it made me think about how I view myself and how others might see me” (p1).</i> • <i>“I realised that I often ignore my physical self when thinking about my identity. This activity helped me connect with my body and acknowledge its role in shaping who I am. It was empowering to take control of how I present myself through this exercise” (p2).</i>

	<p>Further, one participant reflected on the critical view of their body. This underscores the activity's ability to promote self-compassion and acceptance (Eke et al., 2025).</p> <p>Another participant expressed increased confidence, saying, This illustrates how self-reflection through body mapping can enhance self-assurance (Schamroth et al., 2025).</p> <p>Finally, the activity also prompted reflection on past experiences. As one participant stated, , connecting body image with the broader narrative of self-esteem and identity. Similarly, creating a face sculpture allowed a participant to explore how their self-perception differed from external views (Archambault et al., 2025).</p>	<ul style="list-style-type: none"> • <i>“This activity made me think about my body image and how critical I can be of myself. Tracing my body helped me appreciate my unique shape and features” (p4).</i> • <i>“I felt a sense of ownership over my body as I traced it. It made me more confident in my physical presence and how I carry myself” (p5).</i> • <i>“Reflecting on my childhood made me realise how much my early experiences with my parents shaped my self-esteem. It was eye-opening to see the connection between my past and present self” (p1)</i> • <i>“Creating my face sculpture made me realise how I perceive myself differently than how others might see me. It was a revealing exercise in self-awareness” (p1).</i>
<p>Personal identity and self-reflection</p>	<p>Self-awareness and a focus on personal growth and strengths indicate an ongoing process of self-reflection and identity formation and reflect deep self-examination and introspection about one's role and identity within the family (Yunting, 2025).</p> <p>The AP’s expressed feelings of inadequacy and self-blame, demonstrating how their siblings' addiction has prompted them to question their actions and sense of self. This self-reflection is a critical aspect of understanding personal identity and navigating complex family dynamics (Matlhaba, 2025).</p>	<ul style="list-style-type: none"> • <i>“I respect other people's beliefs, but religion has never been a part of my life. I find support through friends and hobbies...For me, it's about finding meaning in everyday actions and relationships rather than through religious practices.” (p21).</i> • <i>“It all started with my drinking habits...I am the cause of so many of the problems. I wish I could turn things back.” (p1).</i> • <i>“I've made a lot of progress. It's not easy, but I remind myself of how far I've come rather than how far I still have to go” (p18).</i> • <i>“I often feel like I'm not good enough, especially when I see how my sibling's addiction has affected our family. I keep thinking, 'What could I have done differently?’” (p22).</i> • <i>“I blame myself for not seeing the signs earlier. It feels like I failed as a family member” (p11).</i>

<p>Manageability and Symbolic Representation</p>	<p>Manageability and Symbolic Representation emphasize how the body mapping activity encouraged participants to reflect on their physical wellbeing and the importance of taking care of themselves (Meiring et al., 2025). Further, showing how the activity connected physical health to identity (Yunting, 2025).</p> <p>For another participant, the process was deeply reflective. This demonstrates how the exercise fostered a sense of empowerment and appreciation for personal growth (Schamroth et al., 2025).</p> <p>Symbolic representation also played a significant role in the activity. One participant described how their body map represented their inner strength and values. This highlights how participants used symbolism to express personal resilience and aspirations (Sheridan & Van Lith, 2025). Another participant reflected on the cyclical nature of life. It reveals the impact of the exercise in linking personal history and future potential , reinforcing the importance of managing one's health and wellbeingfor ongoing self-development.</p>	<ul style="list-style-type: none"> • <i>Seeing my body outline made me reflect on my health and how I take care of myself. It was a wake-up call to pay more attention to my physical well-being” (p10).</i> • <i>“Tracing my body outline made me think about my physical strengths and weaknesses. It was a reflective process that made me appreciate my body more” (p7).</i> • <i>“This exercise highlighted the importance of my physical self in my overall identity. It was a reminder to embrace and take care of my body” (p6).</i> • <i>“Seeing my body outline on paper made me think about my physical journey and the changes I've gone through. It was a reflective and empowering experience” (p10).</i> • <i>“In my body map I made many hearts; it symbolizes who I am and what I want to be. The clouds over my heart and the darkness around the cloud say I do not load my heart with jealousy, envy, and so many ugly things to make a place for the lion symbolically representing the strength within me” (p5).</i> • <i>“The past determines the present, and the present determines the future. What you did yesterday determines today, and what you do today determines what you will do tomorrow” (p14).</i>
<p>Discussion</p>	<p>The finding suggests that self-identity is a growing and dynamic construct which is shaped by introspection, body awareness, and reflection on past experiences (Anand & Karn, 2025; Sheridan & Van Lith, 2025). This suggests that identity is not fixed but continuously renegotiated through engagement with personal history, family roles, relationships, and creative self-expression. Participants’ experiences of role conflict, self-doubt, and questioning of their worth highlight the challenges inherent in identity formation, while their capacity for self-reflection, resilience, and meaning-making illustrates growth and empowerment. The finding furthermore indicates that interventions supporting APs should incorporate reflective practices, opportunities for creative expression, and strategies that enhance self-awareness as well as self-</p>	

	acceptance. These findings confirm prior research by emphasising the importance of reflection, spirituality, and personal engagement in the development of identity, and highlight body mapping and symbolic representation as practical tools that facilitate self-discovery and empowerment. This reinforces the understanding that identity development is both a deeply personal and socially originated process, and that nurturing environments for reflection and creative expression can enhance resilience and wellbeing in populations affected by addiction.
Alignment to SoC theory	Comprehensibility is reflected in participants' ability to conduct introspection and self-reflect. This enables them to make sense of their personal histories, family roles, and embodied experiences. Manageability emerges through the usage of reflective practices, creative expression, and resilience-building strategies that provide resources for coping with role conflict, self-doubt, and uncertainty. Meaningfulness is highlighted through empowerment gained through self-discovery, spirituality, and symbolic representation, fostering purpose, self-acceptance, and a renewed sense of identity.

6.2.6 Combined Theme 6: Self-development

Table 59: Self-identity, discussion, findings and supporting quotations

Combined Theme 6	Self-development (Me)	
Subtheme	Discussion	Supporting quotations
Personal fulfillment and control	The quotes reflect a sense of personal achievement and self-awareness. The respondent acknowledges their progress and focuses on the positive strides made, which fosters a sense of control over their life and fulfillment in their journey. It illustrates an internal locus of control and a proactive approach to personal growth (Shahina, 2024).	<ul style="list-style-type: none"> • <i>"I've made a lot of progress. It's not easy, but I remind myself of how far I've come rather than how far I still have to go" (p18).</i>
Artistic exploration and self-expression	<p>This subtheme reflects how participants used creative activities, such as body mapping and face sculpture, to explore and express their self-identity (Almborough, 2025).</p> <p>One participant shared how the activity prompted deep reflection on self-image and external perceptions. Another participant reflected on their face sculpture, showcasing how artistic expression facilitated a deeper understanding of personal identity.</p>	<ul style="list-style-type: none"> • <i>"Tracing my body outline made me more aware of my physical presence and the space I occupy. It was a powerful experience to see my body's shape on paper, and it made me think about how I view myself and how others might see me" (p1).</i> • <i>"Creating my face sculpture made me realize how I perceive myself differently than how others might see me. It was a revealing exercise in self-awareness" (p1).</i>

	<p>The artistic process also led to introspection about personal features, demonstrating how specific facial features were emphasized in the exploration of identity (Maddamsetti, 2025).</p> <p>Participants were also able to confront insecurities. This illustrates how the creative process helped participants work through challenging emotions in a reflective and positive manner (Hartmann & Roomaney, 2025).</p>	<ul style="list-style-type: none"> • . <i>“I focused on my eyes and smile in the sculpture. It made me think about how these features define how I present myself to the world” (p2).</i> • <i>“Drawing my face allowed me to embrace imperfections as part of my identity. It was a therapeutic process of self-acceptance” (p3).</i> • <i>“I noticed I exaggerated certain features in my sculpture, which reflected my insecurities. It made me confront those feelings in a constructive way” (p4).</i> • <i>“Seeing my face in a different medium helped me appreciate my unique features. It was positive...” (p5).</i>
<p>Career, education and personal fulfillment</p>	<p>Career, Education, and Personal Fulfillment explores the role of personal experiences, education, and career achievements in shaping participants' identities and life paths. One participant shared a detailed reflection on their journey. This narrative illustrates the fulfillment derived from career success, personal milestones, and family life, highlighting the importance of education and professional achievement in shaping a sense of purpose and legacy (Tuzylak-Maguire, 2025).</p> <p>For others, reflecting on their educational journey sparked memories of both challenges and triumphs, showcasing how early experiences played a pivotal role in developing personal strength (Tuzylak-Maguire, 2025).</p> <p>Finally, one participant reflected on the connection between their early experiences and current attitudes.</p>	<ul style="list-style-type: none"> • <i>“After school, I studied further and became a teacher. I was a teacher for 41 years. I met another teacher at the school where I worked, and I married him. We bought a house together. After eight years of marriage, I fell pregnant, and two years after that, I fell pregnant again. Both my kids gained qualifications after school. I now also have a granddaughter” (p14).</i> • <i>“Thinking about my school years brought back memories of both joy and struggle. It helped me understand why I am the way I am today” (p5).</i> • <i>“Looking back at my childhood, I can see how certain events influenced my resilience and determination. It was a meaningful reflection” (p3).</i> • <i>“This activity helped me connect the dots between my early experiences and my current attitudes towards life. It was a valuable exercise in self-discovery” (p6).</i>

	This reveals how the process of reflecting on career and educational milestones fosters a deeper understanding of personal growth and fulfillment (Tuzylak-Maguire, 2025; Matlhaba, 2025).	
Discussion	The findings indicate that participants developed a growing sense of control and self-reflection, acknowledging the progress they have made in achieving self-fulfilment (Anand & Karn, 2025). Creative activities, were central to this process, functioning not only as artistic avenues but also as meaningful tools for self-expression and emotional healing (Anand & Karn, 2025; Sheridan & Van Lith, 2025). These activities facilitated the confrontation of insecurities, embracement of individuality, and the fostering of self-acceptance (Anand & Karn, 2025). Reflection on education, career, and life achievements further cultivated a sense of pride and purpose. This linked personal milestones to identity and legacy (Harper, 2025; Tuzylak-Maguire, 2025). By evaluating both past challenges and successes, participants were able to make sense of their resilience and current attitudes towards life (Kaur et al., 2025). This finding emphasises that self-development is more than recovering from past experiences as it involves recognizing personal strengths, exploring identity, and discovering purpose through lived experiences (Anand & Karn, 2025). In relation to existing literature, these findings confirm the value of reflective and creative practices in promoting self-growth (Sheridan & Van Lith, 2025; Tuzylak-Maguire, 2025), while adding nuance by showing how artistic engagement simultaneously supports emotional processing, identity exploration, and the creation of personal meaning. These insights carry practical implications, suggesting that interventions for APs should integrate reflective and creative approaches to enhance self-development, resilience, and purposeful engagement with life (Harper, 2025).	
Alignment to SoC theory	Comprehensibility is promoted as participants reflect on education, career, and life achievements to make sense of their experiences, linking past challenges to present resilience. Manageability is enhanced through creative activities that serve as tangible coping resources, enabling emotional processing, confronting insecurities, and embracing individuality. Meaningfulness is reinforced as creative expression and personal milestones foster pride, purpose, and self-acceptance, linking identity development to legacy and fulfillment.	

6.2.7 Combined Theme 7: Social support dynamics

Table 60: Social support dynamics discussion, findings and supporting quotations

Combined Theme 7 Social Support Dynamics		
Subtheme	Discussion	Supporting quotations
Social acceptance and relations	This subtheme highlights the role of community, family, and early friendships in shaping participants'	<ul style="list-style-type: none"> “Growing up in a tight-knit community, I learned the importance of family and tradition. We always supported

	<p>understanding of social connections and personal relationships (Hoque, 2025).</p> <p>Another participant emphasised the formative role of early friendships. This highlights how interpersonal connections during childhood can influence one's ability to build confidence and develop social skills that are crucial in later life (Reddy, 2025).</p> <p>Additionally, a participant noted the cultural emphasis on community and mutual aid. This emphasises how cultural values of communal support inform participants' attitudes toward relationships and reinforces the social acceptance and the mutual support that shapes their worldview (Hoque, 2025).</p>	<p><i>each other, and that shaped my approach to relationships” (p3).</i></p> <ul style="list-style-type: none"> • <i>“My early friendships played a big role in shaping my social skills and confidence. Reflecting on those times makes me appreciate how essential those relationships were” (p9).</i> • <i>“In our culture, we have a strong emphasis on community and support. This has shaped my approach to relationships and my understanding of mutual aid sharing” (p12).</i>
Spiritual and social support	<p>This indicated that certain individuals prefer finding support through social networks rather than spiritual or religious means. This highlights their approach to support and meaning (Carreiro et al., 2025).</p>	<ul style="list-style-type: none"> • <i>“I respect other people's beliefs, but religion has never been a part of my life. I find support through friends and hobbies...For me, it's about finding meaning in everyday actions and relationships rather than through religious practices...”I don't necessarily follow a specific religion, but I believe in a higher power. Meditation and mindfulness have been really helpful for me” (p21).</i>
Spiritual and religious beliefs	<p>This highlights the respondent's spiritual beliefs and practices outside of organised religion. It shows how they find meaning and support through personal beliefs, meditation, mindfulness, and relationships, indicating a personalised approach to spirituality (Mas'ud et al., 2025).</p>	<ul style="list-style-type: none"> • <i>“I don't necessarily follow a specific religion, but I believe in a higher power. Meditation and mindfulness have been really helpful for me. I respect other people's beliefs, but religion has never been a part of my life. I find support through friends and hobbies...For me, it's about finding meaning in everyday actions and relationships rather than through religious practices” (p21).</i>
Interpersonal relationships and trust issues	<p>The quotation discusses how the individual finds support and meaning through personal relationships and everyday activities rather than religious practices. It emphasises the importance of interpersonal connections and trust in friends and hobbies as a source</p>	<ul style="list-style-type: none"> • <i>“I respect other people's beliefs, but religion has never been a part of my life. I find support through friends and hobbies...For me, it's about finding meaning in everyday actions and relationships rather than through religious practices” (p21).</i>

	of support and fulfillment (Sánchez-Moreno et al., 2025).	
Social support	This quote underscores the challenges of providing support to a loved one with a drug addiction. It reflects the emotional and physical exhaustion involved in balancing care for the addicted individual with self-care (Sahar & Naqvi, 2025), highlighting the importance of social support networks in such situations.	<ul style="list-style-type: none"> "Living with someone who is on drugs sometimes feels like you're walking on eggs. It is exhausting and makes you so tired. It's hard to draw the line sometimes. You struggle constantly because you take care of them and give love but at the same time you also want to take care of yourself" (p14).
Discussion	The finding suggests that social connections, including family, early friendships, and broader community networks, play a central role in shaping how participants experience and seek support. This means that interpersonal relationships are foundational for social skill development and confidence, and emotional wellbeing throughout life (Hoque, 2025; Reddy, 2025). Emphasis is placed on cultural values which indicates that communal norms significantly influence participants' attitudes toward relationships and social responsibility (Hoque, 2025). At the same time, the preference by some participants to seek support through personal networks or individualised spiritual practices highlights the diversity of coping strategies and the importance of personalised approaches to care (Carreiro et al., 2025; Mas'ud et al., 2025). These findings are significant because they highlight the multidimensional nature of social support, showing that both relational and cultural contexts, as well as individual preferences, shape resilience and coping. Compared to existing literature, this confirms the well-established importance of social networks and support systems in mitigating the challenges of addiction, while adding new insight by detailing how cultural, personal, and relational factors interact in shaping the ways support is sought and experienced. This highlights the need for interventions that are culturally sensitive, relationship-focused, and flexible to individual preferences, ensuring support systems are both accessible and meaningful.	
Alignment to SoC theory	Comprehensibility is supported by family, friendships, and community norms, which provide frameworks that help individuals make sense of relationships, responsibilities, and their place within social systems. Manageability is strengthened through interpersonal networks and individualised spiritual practices, which serve as resources for navigating emotional and social challenges. Meaningfulness is reinforced by cultural values, a sense of belonging within the community structure and relational ties that instil purpose, identity, and social responsibility, while also allowing space for personal coping preferences.	

6.2.8 Combined Theme 8: Wellbeing

Table 61: Wellbeing discussion, findings and supporting quotations

Combined Theme 8	Wellbeing	
Subtheme	Discussion	Supporting quotations

Emotional wellbeing and stability	These quotes demonstrate the individual's ability to acknowledge progress made despite difficulties, showing adaptability in handling life changes (Angeles & Perkins, 2024).	<ul style="list-style-type: none"> • <i>"Despite everything, I've learned to stay calm and take things one step at a time. I know my strengths, and I focus on them" (p7).</i> • <i>"I've made a lot of progress. It's not easy, but I remind myself of how far I've come rather than how far I still have to go" (p18).</i>
Disposition and life orientation	This subtheme explores participants' perceptions of their control over life events and their overall approach to life's challenges and reflects a feeling of powerlessness and frustration, suggesting that the individual feels overwhelmed by circumstances beyond their control. The statement highlights the emotional and psychological toll of feeling unable to influence or manage life situations, offering insight into how life orientation can shape one's sense of agency and well-being.	<ul style="list-style-type: none"> • <i>"...and now it feels like I have no control over things that are going on" (p1).</i>
Emotional expression and vulnerability	The emotional burden of not being able to prevent the sibling's addiction illustrates the self-blame and perceived failure of a family member for not recognizing the signs of addiction sooner, highlighting their emotional vulnerability and internal conflict (Schneider et al., 2025).	<ul style="list-style-type: none"> • <i>"I can't get it out of my head. I did not teach him this life" (p6).</i> • <i>"I blame myself for not seeing the signs earlier. It feels like I failed as a family member" (p1).</i>
Emotional impact and distress	Living with an addict is likened to illustrating the constant tension and exhaustion felt by family members who must balance care and self-preservation. The sense of inadequacy and self-blame is also prevalent among family members, who often wonder if they could have intervened earlier or differently (Schneider et al., 2025; Bhowmick et al., 2025). The quotation captures the emotional turmoil and distress experienced by the parent due to their child's situation. It highlights the deep emotional pain, fear, and helplessness felt by the parent, as well as the longing for their child's wellbeing and the impact on their own life and relationships.	<ul style="list-style-type: none"> • <i>"...walking on egg shells..." (p1).</i> • <i>"Living with someone who is on drugs sometimes feels like you're walking on eggs. It is exhausting and makes you so tired" (p14).</i> • <i>"I often feel like I'm not good enough, especially when I see how my sibling's addiction has affected our family. I keep thinking, 'What could I have done differently?'" (p22).</i> • <i>"My child only brings me tears and silent screams, dread of what the next knock or phone call brings. I see my child and I am not glad, I wish I could save my child. I can see how scared my child is in her eyes. Her</i>

		<p><i>eyes are fearful. I can just hope that things get better. I want to feel and hug my own child again like when she was younger. This is not my fault; I did nothing wrong. There's little I can do. Is there a cure for this? People tell me to be strong but my life is standing still while my friends and relatives move on" (p7).</i></p> <ul style="list-style-type: none"> • <i>"...It was probably the scariest moment of my life" (p4).</i>
Emotional connection and reflection	<p>Participants expressed deep emotional turmoil and reflection on the part of the respondent. It captures their sense of helplessness, fear, and longing for the past, as well as the emotional pain of watching their child suffer (Shneider, et.al., 2025; Bhowmick et al., 2025).</p>	<ul style="list-style-type: none"> • <i>"My child only brings me tears and silent screams, dread of what the next knock or phone call brings. I see my child and I am not glad, I wish I could save my child. I can see how scared my child is in her eyes. Her eyes are fearful. I can just hope that things get better. I want to feel and hug my own child again like when she was younger. This is not my fault; I did nothing wrong. There's little I can do. Is there a cure for this? People tell me to be strong but my life is standing still while my friends and relatives move on" (p7).</i>
Discussion	<p>The findings reveal that participants experience significant emotional and psychological burdens when facing life changes and dealing with a family member's addiction. Despite these difficulties, some individuals demonstrate adaptability and recognise progress in handling life challenges. This reflects resilience and an increasing empowerment (Angeles & Perkins, 2024). However, many participants reported feelings of powerlessness and frustration. This indicates that circumstances beyond their control contribute to emotional distress and they perceive reduced self-efficacy, specifically of family members as they often experience intense self-blame and a sense of failure for not recognising or intervening in a loved one's addiction sooner. This highlights their emotional vulnerability and internal conflict (Schneider et al., 2025). Living with an addicted family member creaes tension and exhaustion as individuals struggle to balance caregiving responsibilities with self-preservation (Schneider et al., 2025; Bhowmick et al., 2025). Parents and siblings experience fear, helplessness, and longing for their loved one's well-being. This illustrates the impact of addiction on family life and interpersonal relationships (Schneider et al., 2025; Bhowmick et al., 2025). These findings are significant because they shed light on the dual experience of emotional strain and resilience within families affected by addiction. They confirm existing literature on caregiver burden and the psychological toll of living with an addicted family member, while adding nuance by emphasising the interplay between self-blame, emotional vulnerability, and adaptive coping strategies (Angeles & Perkins, 2024; Schneider et al., 2025). Practically, the findings highlight the need for support interventions that address</p>	

	both the emotional wellbeing of family members and the development of coping strategies that foster resilience, mitigate feelings of guilt, and enhance ownership in navigating challenging family dynamics
Alignment to SoC theory	Comprehensibility is challenged as family members struggle to make sense of life changes, the demands of caregiving imposed on APs, and the unpredictability of living with an addicted loved one. Manageability is weakened by the emotional and physical exhaustion associated with caregiving responsibilities and the lack of sufficient resources to balance self-preservation with family demands, resulting in feelings of powerlessness and reduced self-efficacy. Meaningfulness, however, is present where resilience and adaptability comes about, as some participants recognize progress, embrace empowerment, and find purpose in striving for their loved one's wellbeing despite ongoing distress.

6.3 Phase 2

The findings of Phase 2 are based on, firstly, the chats to provide insights in the APs lived experiences while participating in the online group activities, and secondly, on the participants’ reflection of their participation.

6.4 Summary of Key Findings for Phase 2 from chats

6.4.1 The findings based on the chat data of Phase 2 are discussed next.

Table 62: Summary of Key Findings for Phase 2 from chats

Theme	Finding	Supported quotations
Social Support and Emotional Wellbeing	The intervention provided emotional support, validation, and advocacy, which enhanced resilience, reduced isolation, and fostered a sense of emotional safety (Shifa et al., 2025). The quotations show how members received emotional validation and experienced a reduction in feelings of isolation. This was done through regular check-ins, peer validation, and hearing about similar struggles, which offered immediate affective relief (Foxx, 2025) and reduced the impact of stressors on wellbeing (Kim & Jung, 2025). The online service therefore enhances the SoC as it makes experiences more comprehensible, manageable, and meaningful (Antonovsky, 1987) and confirms that peer support improves connectedness (Ford et al., 2025). Emotional safety on an online platform is under-described in the literature, yet it strengthens the validity of LMIC digital peer models.	<p><i>“I feel better after sharing here, thank you all for listening”.</i></p> <p><i>“It helps to know I’m not alone in this”.</i></p>
Platform Usability and Participation	WhatsApp was accessible in rural contexts (Maitra et al, 2024). Features such as voice notes, pinned messages, and clear group rules supported ease of use and sustained engagement (AlGhamdi, 2025). These are all lowered barriers to entry and sustained activity on the platform (De, 2025). Studies show that WhatsApp is scalable and acceptable for mental health support in LMIC (Fikani et al., 2025) and drives adherence in mobile peer programs (Kiirya et al., 2025) and confirms the practicality of “meet-people-where-they-are” platforms (De et al., 2025).	<p><i>“Thanks for pinning the rules, makes it easier to follow”.</i></p> <p><i>“I prefer sending voice notes because typing is hard when I’m upset”.</i></p>

<p>Belonging, Empowerment, and Identity</p>	<p>Sharing experiences normalized challenges, reduced stigma, and cultivated belonging in the online group. Members reported empowerment through pursuing personal growth (Jin & Wang, 2025). This is because being aware of others' compromised lived experiences normalises struggles (Foxx, 2025). Documenting their sense of belonging and empowerment in an AP WhatsApp group broadens the evidence base for peer support beyond patient-only strategies (Kiirya et al., 2025).</p>	<p><i>"Hearing your stories makes me feel like I belong somewhere".</i></p> <p><i>"I finally told my family no, I need space — thank you for encouraging me".</i></p>
<p>Practical Support and Resource Exchange</p>	<p>Advice-sharing and resource exchange often occurred in this group, as participants valued exchanging advice, coping strategies, and information on local services, complementing emotional and social support (Moecke & Camp, 2025). This means that members actively shared coping strategies and service information alongside emotional care. This function of informational and emotional support is known to co-occur in internet support groups (Liu et al., 2022).</p>	<p><i>"Here's the number of a counselor in Worcester who helped me".</i></p> <p><i>"I try to write things down when I feel overwhelmed — maybe it will help you too".</i></p>
<p>Group Culture and Sustainability</p>	<p>A cohesive group identity emerged, characterized by empathy, confidentiality, and encouragement (Lenz, Muskat & de Brito, 2025). Although engagement fluctuated, quick check-ins and motivational posts helped maintain participation over time. The quotations reflect shared sayings, group identity, and sustained engagement. These ritual phrases kept the group coherent and confirmed that facilitation, together with group norms are important — just as much as the platform (Roald et al., 2025). Specific micro-practices (mantra-based culture) are actionable sustainability mechanisms that many studies don't articulate.</p>	<p><i>"Remember the small wins, that's what keeps us going".</i></p> <p><i>"Even when I don't chat, I listen to your voice notes, and it keeps me motivated".</i></p>
<p>Overall finding</p>	<p>The study found that a WhatsApp-based peer support intervention increased and strengthened emotional well-being, resilience, and connectedness among APs supporting individuals with addiction in rural, low-resource contexts. Through the practice of emotional validation, practical resource exchange, and shared identity, participants experienced reduced isolation and stigma, and gained empowerment and coping strategies. Usability features such as check-ins sustained participation and created a supportive group culture. These mechanisms align with Antonovsky's Sense of Coherence (1987) theory by making challenges more comprehensible, manageable, and meaningful. The findings confirm that WhatsApp is a scalable tool for psychosocial care, while adding new evidence on design-level practices that sustain engagement. This has important implications for practice (adopting structured digital peer groups), policy (funding AP-oriented digital programs), and research (testing which micro-practices drive retention and outcomes).</p>	

6.4.2 Reflections table discussion

The participation findings based on the reflection data, are discussed next as presented in Table 63.

Table 63: Participation findings

Theme	Finding Discussion	Supporting quotation
User Experience and Satisfaction	This theme combines participants' overall experiences with the online support service, by examining both positive aspects (e.g., convenience, anonymity, ease of navigation) and negative experiences (e.g., technical issues, concerns about privacy). It reflects participants' satisfaction with the service and their suggestions for improvement to enhance user experience.	<i>"The anonymity and it was easily accessible. It was good to talk to someone that was available at the click of a button. And who could assist when I had time. I didn't have to make special arrangements to access the service, it was very convenient".</i>
Facilitator-Client Relationship	Participants' perceptions of their interactions with the facilitator during chat sessions form this theme. It includes descriptions of the trust built and communication dynamics experienced between participants and the facilitator. Varied experiences, ranging from feeling understood and valued to feeling disconnected, are captured within this theme.	<i>"The fact that the person spent time with me. Without being in a hurry".</i>
Communication and Support	This theme focuses on the effectiveness of communication during chat sessions and the support provided by the facilitator. Participants' comments regarding feeling heard, receiving valuable information, and the absence of judgment are forthcoming under this theme. It underscores the importance of effective communication in fostering open dialogue and a supportive environment.	<i>"There was prompt service, good guiding questions and it was reliable and I felt safe to speak".</i>
Technology-Related Challenges	Participants' experiences and concerns related to the technical aspects of the online support service constitute this theme. It includes discussions about accessibility, data usage, platform navigation, and technical glitches encountered during chat sessions. The theme highlights the	<i>"I could use another name other than my own. It was in chat form. I liked that I could type and not talk. I could be myself. And express my emotions. It was easy to navigate on the platform. It was private".</i>

	impact of technology on user experience and suggests areas for improvement.	
Ethical Considerations and Emotional Responses	This theme entailed participants' ethical concerns, such as privacy and confidentiality, as well as their emotional responses during counseling sessions. It reflects on the potential distress associated with discussing sensitive topics and the importance of maintaining trust and confidentiality in online counselling services. Additionally, it highlights the protective role of anonymity and participants' suggestions for ensuring ethical practice.	<i>"The privacy. I can stop and go on as I see fit".</i>
Overall finding	Anonymity lowered challenges as the online support service was seen as safe, easy to use, and useful. In order to promote trust, transparency, and emotional relief, participants appreciated the facilitator's attentiveness and encouraging communication. In line with the Sense of Coherence concept, the platform improved meaningfulness, manageability, and comprehensibility. Although overall satisfaction was high, sustained participation requires ongoing attention to privacy, secrecy, and technical reliability.	

The themes continually show how peer support interacts with the SoC framework. By assisting participants in recognising their challenges as common within the group, and intentional, emotional wellbeing and social support increased comprehensibility and meaningfulness while decreasing feelings of loneliness. Clear guidelines and frustration-free communication fostered comprehension and meaningful participation, while WhatsApp's user-friendly features strengthened manageability by providing accessible tools and resources in underserved environments. All three SoC components were further related by shared narratives of compromised lived experiences and empowerment, which normalised difficulties, improved coping skills, and confirmed life's purpose. Sharing resources and exchanging coping mechanisms improved manageability and comprehension while confirming the need for resilience. Lastly, SoC was holistically maintained by a cohesive group culture with rituals and standards. This fostered predictability, easily accessible support, and a feeling of community.

6.5 Phases 1 and 2 identified Influencing factors

The digital intervention design was based on the results of the first phase to ensure that all factors that influence APs' lived experiences are considered. In addition, the stressors and protective resources are indicated, as identified in Phase 1, along with how the digital intervention resulted in them in an online environment.

Table 64: Phases 1 and 2 identified factors influencing APs' lived experiences

	Phase 1	Phase 2
Stressors	The participants' daily lives were affected by a number of challenges. These included familial discord and conflict, as well as mixed family influences that affected self-perception, and the effects of addiction, such as financial strain and theft. Community issues also came to light, such as a lack of institutional assistance, legal issues, and safety concerns. Participants also reported feelings of emotional distress, vulnerability, and challenges with trust and social acceptance in interpersonal interactions.	Participants identified challenges which related to the online support service. These are: fear of being overheard by family members, particularly children, caused anxiety and limited openness. Technical difficulties and unfamiliarity with digital tools created frustration, especially for those who are "tech shy." Emotional reactions, such as anger or distress when confronted with difficult topics, were also noted as potential stressors during sessions.
Resistant Resources	A number of protective factors surfaced in spite of these obstacles. Community support networks, such as Toevlug supplied significant outside assistance. In addition, participants used coping strategies like prayer, resilience, determination, and flexibility. A sense of control and fulfillment was made possible by personal growth through education, employment prospects, artistic expression, and self-discovery. Participants' capacity to cope was further reinforced by spiritual support and a feeling of meaning or purpose.	The online format itself served as a protective factor, offering convenience, anonymity, and reduced social judgment. Direct communication with the facilitator via chat provided a safe space to share lived experiences. Participants valued being in control of what they disclosed and appreciated the opportunity to receive guidance and positive feedback. The service's accessibility, if understood and available when needed, further supported engagement and coping.
Finding	The findings from phase one reflected that APs' experiences were shaped by both stressors and resistant factors across addiction, family, community, and emotional domains. Internal resources, such as resilience, coping strategies, and self-development, alongside external supports from social, community, and spiritual networks, were essential in mitigating the impact of stressors. Overall, emotional wellbeing and identity formation were important in navigating challenges and fostering personal growth and recovery.	Phase Two highlighted that online peer support can be highly beneficial, specifically when it offers anonymity, convenience, and non-judgmental communication. While technical barriers and emotional reactions may pose challenges, participants generally experienced the service in a positive manner, noting improvements in confidence, openness, and readiness to face new challenges. Generally, the service's design and accessibility were crucial in fostering a safe and supportive environment for users.

Phase One and Phase Two differ in terms of their focus, context, and the nature of stressors and protective factors. Phase One explored participants' broader lived experiences. This included the consequences of addiction, family dynamics, community challenges, personal development, and overall well-being. Stressors in this phase were largely external and ongoing, including financial strain, family conflict, safety concerns, and social trust issues. Resistant factors, on the other hand, encompassed both internal and external resources, such as resilience, coping mechanisms, self-development, social and spiritual support, and community networks. Phase Two focused specifically on participants' experiences with an online peer-support service. Here, stressors were rather service-specific, including fear of being overheard by family, technical difficulties, and emotional reactions via the platform when discussing difficult or sensitive topics. Protective factors were related to the service itself, such as anonymity, convenience, direct communication with facilitators, a non-judgmental environment, and choice over what to share. Overall, Phase One provided a contextual understanding of participants' life challenges and coping strategies. In contrast, Phase Two highlighted the effectiveness, accessibility, and service-specific benefits and challenges of the online support intervention.

6.6 Facilitators' Role in Guiding Support

Facilitators play an important role in fostering a supportive and inclusive environment within the peer support group (Maillé et al., 2025). Their responses to the stories shared by participants should demonstrate a commitment to compassion and actionable support (Yoon et al., 2025). For example, one participant noted, *"The facilitator really listened and helped me think about what I can do, not just what I feel"*, while another shared, *"I felt respected and understood whenever I spoke—no one judged me"*. Facilitators ensure that discussions remain respectful and solutions-oriented while validating the emotions shared by members, reinforcing a culture of safety and empathy (Zhang et al., 2025). This approach allows for sustainability within the group dynamic and exemplifies the principles of social support theory, where emotional, informational, and appraisal support enhance participants' coping capacity and sense of belonging (Liu, Zeng & Chang, 2025). By modelling empathetic engagement and guiding problem-solving, facilitators not only maintain group cohesion but also strengthen participants' self-efficacy and resilience (Scheepers & Van Den Berg, 2025).

6.7 Chapter Conclusion

A thorough assessment of the intervention designed to support APs was given in this chapter. The results demonstrated the beneficial effects of peer-led online support, highlighting Social media platforms' contributionthe contribution of social media platforms to the development of emotional resilience, connectivity, and access to necessary resources. Together, the participants' coping mechanisms, peer approval, and shared experiences improved their mental health.

The importance of peer affirmation in reducing the stigma and loneliness that APs frequently face was highlighted throughout the conversations. Additionally, the intervention demonstrated how digital platforms can fill gaps in conventional support networks, especially in underserved areas. Notwithstanding technical difficulties and uneven involvement, the intervention provided insightful information about how to meet the diverse requirements of APs.

The intervention showed potential in helping APs, but there were a number of obvious limitations that made continued improvement necessary. Digital literacy is a major drawback since some participants found it difficult to use the online platforms, which may have had an impact on their level of involvement and the degree to which they might benefit from the intervention. This emphasizes how crucial it is to offer individualized direction and continuous technical assistance to guarantee that every participant can completely access and take part in digital interventions.

Generalizability is a further limitation. The study concentrated on a specific group of APs in certain localities, and their experiences might not accurately reflect those of APs in other socioeconomic or geographic circumstances. Because cultural, social, and technological settings can affect the efficacy of similar interventions, care should be taken when extrapolating these findings to other groups.

Therefore, in order to promote prolonged engagement, future iterations should take into consideration strategies to improve digital accessibility, provide tailored materials, and maintain ongoing facilitation. By recognizing these limitations, the results contribute to the larger conversation on enhancing support systems for APs and offer a framework for creating more person-centered, inclusive, and accessible online support interventions.

CHAPTER 7: Conclusion and further research

Chapter 7 concludes this thesis, offering a comprehensive reflection on the research process. This chapter summarises the findings and explicitly reflects on how the research objectives guided the study and were addressed through the research questions and outcomes. It also discusses the implications of the research results. In this section, the researcher highlights the limitations encountered throughout the study and provides recommendations for future research in this field. The goal is to offer a final evaluation of the research process, considering the methodological choices and their impact on achieving the stated research objectives.

7.1 Overview of research conducted

This study was designed to co-design a technology-enabled PFCSS as an intervention, specifically tailored to the needs of individuals affected by supporting substance-dependent individuals with a focus on APs. The original research proposal outlined several objectives, including to evaluate the roles, challenges, and coping strategies of APs, identify gaps in current support services, and investigate the potential of eHealth interventions to enhance their wellbeing, and aimed to utilise interviews, take-home diaries, body mapping, and focus groups to achieve these goals. In comparison to the initial proposal, the study largely adhered to the outlined methodology but encountered a few deviations due to practical challenges. For example, the recruitment of participants. Despite these challenges, the core objectives were met, and the research successfully addressed investigating the lived experiences of APs. The data gathered through the methods used provided valuable insights into the significant emotional and practical challenges APs undergo, while identifying critical gaps in formal support services, which align with the proposed outcomes but also offer unexpected contributions, such as eHealth interventions emerging as a promising tool to enhance their wellbeing by providing accessible, flexible support resources. The research process demonstrated both strengths and limitations. While the initial design provided a strong framework for the study, certain aspects, such as varied participant engagement, digital literacy and access issues, emotional and psychological impact, moderation challenges, variability in peer support, participant retention, limited scope of interventions, lack of comparative analysis, data privacy concerns, and intervention adaptability, were more complex than anticipated. Nonetheless, the study's findings contribute significantly to the understanding of the SoC of APs. Overall, the research not only met the objectives outlined in the proposal but also identified important new areas for future exploration.

7.2 Summary of findings

This section provides a comprehensive summary of the key findings from the research, analyzing the lived experiences of APs, the outcomes of peer-led online social support interventions, and the insights gathered from the intervention design. The findings are categorised into three main sections: APs' lived experiences, peer-led online social support outcomes, and the design and effectiveness of the intervention methods.

7.2.1 APs lived experience findings

The interviews, body mapping, and stakeholder mapping revealed the multifaceted nature of APs' lived experiences in the context of supporting individuals with substance addiction. APs reported high levels of emotional distress, with a significant impact on their mental health due to the constant worry, caregiving responsibilities, and lack of adequate support. The social context of these experiences highlighted how APs navigate challenging relationships and manage stigma associated with addiction. Their needs were not only focused on emotional support but also on practical assistance, such as financial support, guidance on navigating addiction-related healthcare systems, and opportunities for self-care. APs expressed a desire for greater access to peer support networks and professional counselling services, as well as resources to help them manage the complex dynamics of caregiving. This aligns with existing literature, which stresses the importance of both emotional and instrumental support for caregivers of individuals with addiction (Kalra & Tung, 2024; Mikulić et al., 2023; Tyo et al., 2023).

7.2.2 Peer-led online social support findings

The peer-led online social support intervention revealed significant positive outcomes in fostering emotional resilience among APs. Analysis of the chat data, sentiment analysis, and content analysis demonstrated that participants frequently expressed feelings of relief and empowerment as they shared experiences and received emotional validation from their peers. Positive sentiment was predominant in the exchanges, with a noticeable reduction in feelings of isolation as participants engaged with others who shared similar challenges. Content analysis revealed key themes of shared coping strategies, emotional support, and the normalisation of experiences, all of which were central to the intervention's success. These findings align with research by Topping (2022), which indicates that peer-led interventions are particularly effective in improving the mental wellbeing of individuals supporting those with substance use disorders. However, occasional challenges were noted, such as the need for more robust mechanisms to address technological barriers to engagement, consistent with findings from similar peer support studies (Fortuna et al., 2020).

7.2.3 Intervention design findings

The intervention design, which integrated online peer support through structured facilitation, proved effective in fostering positive interactions among APs. The methods employed, such as guided discussions, peer-led sharing, and emotional support via a digital platform, worked well to create a sense of community and trust among participants. However, the effectiveness of these methods varied, with some participants requiring more structured guidance due to the sensitive nature of the topic. Additionally, while the platform was generally well-received, technological barriers, such as access issues or unfamiliarity with the tools, sometimes hindered full participation. These challenges underscore the need for further refinement in platform accessibility and user training. Insights from this phase align with previous studies on digital interventions for caregiving populations, such as those by FAMILONI and BABATUNDE (2024), who highlighted the importance of user-friendly interfaces and flexible engagement strategies in ensuring the success of online interventions. Future intervention designs should focus on improving accessibility and enhancing user engagement strategies, particularly for those less familiar with digital platforms.

7.3 Research questions revisited

In this section, the findings are analysed about the research questions, addressing the lived experiences of APs supporting individuals with substance addiction, the available support services, and the potential for eHealth interventions. The answers to the sub-research questions provide valuable insights into the main research question, helping to understand how APs experience their caregiving role, their challenges, and how interventions can support their well-being.

The sub-research questions for each of the three main research questions are answered first, followed by the answer to the main research question, to capture the essence of the combined sub-answers.

7.3.1 Research question 1

Sub-research Question 1.1: How do APs perceive their role and responsibilities in supporting individuals with substance addiction?

The role of APs in supporting individuals with substance addiction is multifaceted and involves both emotional and practical responsibilities. APs often take on caregiving tasks, such as managing daily routines, providing emotional support, and helping to navigate the healthcare system. They often act as

the primary source of support for individuals in recovery, offering encouragement and a stable system (Harrod et al., 2024). However, this role is also associated with significant emotional strain, as they juggle the needs of the person with addiction while often neglecting their own well-being. The findings revealed that APs perceive their role as extending traditional caregiving. In addition to providing emotional stability and daily practical support, they also act as navigators of the healthcare systems, bridging the gap between the individual with the addiction problem and formal services. A unique finding was that APs described their role as 'enablers'. This indicates the tension they experience between fostering independence and preventing relapse. The study's findings emphasised that caregiving roles were greatly shaped by cultural values, family obligations, and limited formal support structures- this made their responsibilities context-specific in terms of emotional and practical caregiving. APs reported personal neglect and emotional exhaustion, yet still prioritised their roles to fulfilling a duty tied to love, loyalty, and responsibility. This highlights the ambivalence in how they value their both rewarding and burdensome role.

For further research, it is recommended to examine how cultural beliefs, family structures, and gender roles shape APs' perceptions of their responsibilities. In addition, studies should investigate the impact of caregiving on children and younger family members in households affected by substance addiction. The potential of online peer-led digital support groups and digital health platforms as extensions of caregiving roles warrants exploration. Finally, further research should focus on identifying coping strategies, protective factors, and resilience mechanisms that enable APs to sustain their caregiving responsibilities without experiencing severe burnout.

It is recommended that policy and practice frameworks formally recognise APs as key stakeholders in addiction recovery, and ensure their inclusion in care. The development of structured psychological services, such as counseling, stress management classes, and opportunities for temporary assistance is crucial to strengthening support. Initiatives for education and training should also be put in place to provide APs the skills they need to cope with addiction and improve their capacity to provide care without sacrificing their own health. In order to promote a more comprehensive and inclusive approach to care, healthcare professionals should be encouraged to incorporate APs as cooperative participants in therapy.

Sub-research Question 1.2: What emotional and psychological challenges do APs face while providing support to individuals with drug dependence?

The emotional and psychological challenges experienced by APs are significant. Many participants in the study reported feelings of anxiety, stress, and frustration due to the unpredictable nature of addiction and the toll it takes on their mental health. These challenges include dealing with feelings of helplessness, fear of relapse, and isolation. APs also experience chronic emotional fatigue as they try to balance caregiving with their personal lives, leading to heightened stress levels. The caregiving role often blurs boundaries, leading APs to lose a sense of self-care (Rosenthal, 2024).

APs reported experiencing intense emotional strain, which is characterised by their feelings of anxiety, stress, frustration, and helplessness. Their key challenges were the constant fear of relapse of their loved one as they perpetuated worry and uncertainty. They also faced social isolation due to stigma and the demands of caregiving as social interactions were limited and they intentionally limited interaction with social networks. Chronic fatigue was also prevalent as APs tried to balance their personal lives with their professional lives. APs also frequently neglected selfcare and reported diminished identity while prioritising the needs of the substance abuse-dependent individual- meaning that personal boundaries were blurred.

The long-term psychological consequences of sustained caregiving roles on APs' mental health, including the risk of depression and secondary trauma should be explored. The impact on the wellbeing of APs due to stigma and social exclusion, and how community -based interventions can address these effects, can be investigated. Further research could also examine whether emotional and psychological challenges differ between male and female APs, given their cultural and gender role expectations in society and within their family contexts. Digital interventions might also assess the effectiveness of online mental health support platforms, peer-led virtual groups and tele-counselling in reducing the emotional burdens faced by APs.

Accessible psychological support services, such as counselling and therapy tailored to their needs, with a focus on managing stress, anxiety, and emotional exhaustion, should be provided to address the emotional and psychological difficulties that APs encounter. Peer support groups would also give APs an environment of safety to talk about their experiences, lessen feelings of loneliness, and boost resilience by encouraging one another. Anti-stigma initiatives should be created to increase community awareness and lessen the stigma associated with addiction to lessen their burden further and allow APs to seek help without concern about being judged. The implementation of self-care training programmes, such as workshops on stress management, mindfulness, and boundary-setting, is equally crucial, as it would

enable APs to put their own health first. Lastly, it is critical to integrate caregiver support into healthcare systems. Health care providers are urged to assess the mental health of APs regularly and include caregiver support strategies in comprehensive addiction treatment programs.

Sub-research Question 1.3: How does the lived experience of supporting someone with substance addiction influence the overall wellbeing of APs?

Supporting someone with substance addiction has a profound impact on the overall wellbeing of APs, often leading to physical and emotional burnout. Participants described feelings of exhaustion, depression, and emotional numbness because of constant caregiving. The psychological toll of managing stress, coupled with the strain of supporting an individual with addiction, often leads to a deterioration in APs' own mental health. As a result, their wellbeing is compromised, and many report feelings of inadequacy and guilt for not being able to "fix" the situation (Jones, 2024).

This study revealed that supporting an individual with substance addiction has a profound and multifaceted impact on APs' overall well-being, resulting in both physical and emotional burnout. Participants reported exhaustion, depression, and emotional numbness as they described their caregiving role as emotionally draining and physically taxing. The exposure to stress and the unpredictability of addiction contributed to deteriorating mental health, with APs expressing feelings of helplessness, guilt, and personal failure when unable to "fix" the situation. APs also reported reduced quality of life, including disrupted sleep, neglect of self-care, and difficulty maintaining personal or professional relationships, further deepening their sense of isolation.

Expanding knowledge of the complicated situations of APs who assist people with substance addiction should be the main goal of future research suggestions. Future research might examine the long-term effects of caring responsibilities on physical health, such as the prevalence of chronic illnesses and physical symptoms resulting from prolonged stress. It would also be beneficial to investigate how APs' work-life balance, job security, financial stability, and general quality of life are affected by their caregiving responsibilities. Furthermore, intersectional analyses that look at how APs' wellbeing is influenced by gender, socioeconomic status, and cultural norms may shed light on the difficulties that certain demographic groups confront. To evaluate how successfully tailored support strategies—such as therapy, emergency care, and digital health tools—improve the mental, physical, and social wellbeing of APs, longitudinal intervention studies are required.

Prioritising an approach to support interventions is necessary to lessen the detrimental effects of caring on APs' wellbeing. To support emotional healing and resilience, accessible mental health treatments that are tailored to the requirements of APs must be made available. These services should include counseling and therapy. Programmes for respite care must be established to temporarily relieve APs of their caregiving duties and lower their risk of burnout. Healthcare professionals ought to regularly assess the wellbeing of APs and assist in making referrals to suitable mental health and community support resources to promote a caregiver-inclusive strategy. In addition, workplace regulations and financial aid programmes must be put in place to reduce the financial burden and job-related difficulties that APs frequently encounter. Finally, community education and de-stigmatisation initiatives play a critical role in offering safe spaces where APs may safely ask for assistance without worrying about criticism, which eventually minimises social isolation and improves general wellbeing.

Sub-research Question 1.4: What coping strategies do APs employ to manage the stress and emotional burden associated with their supporting role?

APs employ various coping strategies to manage the stress and emotional burden of caregiving, including seeking social support from peers and family, practising self-care activities like exercise, and finding respite through hobbies or time alone. Many also rely on their faith or spirituality to cope with the challenges. However, these coping strategies are often insufficient, highlighting the need for more structured support systems and professional guidance (Tyo et al., 2023). The coping mechanisms identified reflect a reliance on informal networks rather than formalised, comprehensive support systems.

The study found that to cope with the emotional and psychological demands of providing care, APs, who assist people with substance addiction, mostly rely on several kinds of informal coping mechanisms. To temporarily decrease the stress of caregiving, common strategies included asking friends, family, and community networks for emotional support as well as partaking in self-care endeavors such as exercise, relaxation methods, and hobbies. Additionally, faith and spirituality were seen as important sources of strength, providing APs with resilience and a sense of purpose in their role as caregivers.

Despite these attempts, an overwhelming majority of participants stated that they relied more on informal networks than on formal professional interventions because these coping mechanisms were frequently insufficient in treating chronic stress and burnout. These results highlight the need for targeted

support networks and interventions, as they expose a significant lack of organized, readily accessible coping resources tailored to the needs of APs.

Research Question 1: How do APs currently experience their lived situation while supporting individuals struggling with substance addiction?

Based on the above sub-research questions, the response to the first research question is:

Lived experience is a complex and multifaceted construct that requires different approaches to get to the essence of a person's lived experience, which is often difficult to verbalise by the person. The following lived experience dimensions: cognitive-emotion (thoughts and feelings experiences), physical (sense of body), behavioural (habits, norms, and actions), social (relations with others), environmental (environmental influences), and technological (technology use and impact) can assist in gaining a better understanding of the overall lived experience.

APs' lived experiences are negatively impacted by the behaviour of the person with an addiction problem that they support. In those cases where a person's lived experience is directly influenced by another person's behaviour, often in the same living space, one can refer to a compromised lived experience. When this is linked to a specific phenomenon, such as drug dependency, then a good understanding of the phenomenon is also required to comprehend its environmental influences.

The following dimensions of a person's compromised lived experience, namely, social, environment, and technology, directly contribute to the person's sense of coherence, more specifically, cognitive-emotion, physical, and behavioural, which leads to them finding it difficult to cope with such a situation.

This means that a compromised lived experience is situated within a specific context. Focusing on a person's sense of coherence, to make sense of their situation, and find meaning in dealing with the challenges, helps them manage their daily lives. In addition, focusing on the specific social support needs of the AP can assist with coping and wellbeing.

7.3.2 Research question 2

The sub-research questions are first considered to form the basis of the second research question's answer.

Sub-research Question 2.1: What types of support services are currently accessible to APs, and how are these services delivered (e.g., in-person, online, helplines)?

The support services available to APs are limited and typically delivered through a combination of in-person support groups, online platforms, and helplines. Some services are provided by local community organisations, while others are accessed through healthcare facilities or addiction treatment centres. However, many APs reported that these services were either underutilised or inadequate, especially in rural or underserved areas. The reliance on in-person services also posed a challenge for those who faced logistical or financial barriers to access (Kabembo, 2024).

While in-person support groups, online platforms, and helplines are the core ways services are provided, these modes' accessibility, as they are limited by distance, transportation challenges, financial constraints, and their efficiency are uneven within underserved areas. And in cases where these services are available, timing and scheduling, and the need for other types of care and caregiving responsibilities take preference and restrict access.

Digital platforms and virtual support groups provide some form of flexibility and are dependent on reliable access to the internet, literacy (digital), and comfort with technology which is not consistent across all APs. Helplines offer immediate assistance in situations of crisis but tend to be reactive rather than proactive and focus on short-term guidance rather than offering sustained support.

The content and scope of these services do not comprehensively address APs' holistic needs. Most of these programmes provide basic emotional support and focus on educating APs about substance dependency, while areas such as stress management, long-term mental health support, and family-centred interventions are lacking. APs stated a lack of personalised support- this means that services are not customised or tailored to individual circumstances, cultural contexts, or the unique challenges of living with and or supporting someone with an addiction.

There is usually little to no cooperation between service providers, which creates gaps in care. APs may need to seek assistance from different organisations or programmes independently, which can lead to feelings of being stretched beyond capacity, confusion, and discouragement. This also reduces possibilities for holistic interventions that integrate psychological, social, and practical support, resulting in APs having to depend on informal networks or personal coping mechanisms.

The limitations indicate the need for more inclusive, flexible, and comprehensive support systems that relate to the APs' lived experiences. This includes taking into consideration their caregiving burden, geographic location, cultural background, and personal coping capacity. A more integrated approach, which combines professional support with community-based and digital solutions, could boost both the reach and effectiveness of services. This will improve the wellbeing and resilience, and coping resources of APs.

Sub-research Question 2.2: How do APs rate the effectiveness and adequacy of the existing support services in addressing their specific needs and challenges?

APs generally rated the existing support services as inadequate in addressing their specific needs. While some found value in peer-led support groups, others expressed dissatisfaction with the lack of tailored interventions. APs noted that the emotional and psychological aspects of caregiving were often overlooked in support services, with a greater focus placed on the needs of the individual with addiction. This highlights a gap in services designed to address the specific challenges of APs, which calls for a more personalized and holistic approach (Markoulakis et al., 2023).

Sub-research Question 2.3: What are the perceived gaps in the current support services, and what improvements or additions do APs suggest to enhance their support experience?

APs identified several gaps in the current support services, including limited access to counseling, a lack of emotional support tailored to caregivers, and insufficient resources for managing stress and burnout. Suggestions for improvement included developing more flexible online support platforms, increasing the availability of mental health services, and creating peer networks that can provide ongoing emotional support. Many APs expressed the desire for more accessible, integrated services that combine both the needs of caregivers and those of individuals with substance addiction (Chan et al, 2022; Reynolds et al., 2022).

Research Question 2: What support services are currently available for APs supporting individuals with substance dependency to identify the perceived gaps and shortcomings in these services?

Participants have reported that although support services exist, such as counselling, rehabilitation centres, and social services, they often are regarded as insufficient, inaccessible, and focus more on the person with the substance dependency problem and are therefore misaligned with the APs' lived realities.

To mitigate this, APs relied on coping mechanisms they developed, such as peer support, resilience strategies, and spirituality. Peer networking was particularly valued, as participants felt they were valued and seen by peers who had similar experiences. By utilising Antonovsky's (1987) SoC framework, APs demonstrated comprehensibility, manageability, and meaningfulness as they made sense of their realities. Gaps in current services include limited accessibility, the fact that there is a focus on the substance-dependent individual rather than the AP, a focus on the lack of culturally sensitive interventions, and stigma associated with seeking help. These findings highlight the importance of integrating peer, resilience, and spirituality-oriented approaches into a formal service structure. It is recommended that service providers form family- and community-centred programmes that actively incorporate the lived experiences of APs, their peer networks, and spiritual methods to increase effectiveness and accessibility.

Sub-research Question 3.1: What are the specific needs and preferences of APs in terms of receiving support through mobile health interventions?

APs expressed a preference for mobile health interventions that provide easy access to support services and resources. They favoured platforms that offered a combination of emotional support, educational content, and stress management tools. Many APs also emphasised the importance of flexibility in accessing support, noting that mobile health interventions would allow them to receive help when they needed it most, without the constraints of traditional in-person services. In addition, it is important that the intervention provides a safe space to allow participants to be open and vulnerable. (Samari et al., 2024).

According to the study, digital health interventions that provide flexible, on-demand access to both practical and emotional support are highly valued by APs, effectively lowering the obstacles associated with traditional in-person services. The participants indicated a strong preference for integrated platforms that include stress management techniques customised to their individual needs, instructional materials on addiction and caregiving, and emotional support services. With APs stressing the value of a safe online space where they could express their weaknesses and experiences without worrying about shame or judgment, safety and secrecy were highlighted as essential characteristics. Since caregiving obligations frequently limit APs' ability to seek in-person support, the simplicity and privacy of mobile solutions were also highly valued.

Research suggestions for future studies should concentrate on improving the efficacy and development of digital treatments for APs helping people with substance abuse. Subsequent research endeavours may examine user experience and engagement, exploring the ways in which APs engage with digital platforms and identifying aspects that promote sustained engagement and satisfaction. To make sure that these resources satisfy the APs' various linguistic and cultural requirements and hence improve accessibility and relevance, more research is required on cultural and linguistic adaptation. The usefulness of digital technologies in lowering caregiver stress, boosting wellbeing, and increasing caring capacity over time would be better understood through longitudinal efficacy research. To guarantee fair access to assistance, it will also be crucial to investigate obstacles to digital uptake, such as difficulties with digital literacy, poor connectivity, and cost. This is especially important for those who are marginalised.

To address the needs of APs, digital interventions should be developed to offer comprehensive support, including instructional materials, stress-reduction techniques, and emotional support, on a safe, accessible online platform. Developers should include confidentiality and anonymity features to promote transparency and reduce the stigma-related obstacles. Additionally, the design must prioritise accessibility and flexibility so that APs can access resources from anywhere at any time. To guarantee evidence-based functionality and content, cooperation between addiction experts, mental health professionals, and technology developers is crucial. Lastly, to guarantee the platform's usability, relevance, and cultural sensitivity, pilot testing and co-design with APs should be given top priority.

Sub-research Question 3.2: How can digital health applications provide personalised and interactive support to address the emotional, psychological, and informational needs of APs?

Digital health applications can provide personalised support, such as tailoring coping strategies, providing real-time emotional support, and access to a variety of resources designed for APs. Interactive tools, such as chat functions with skilled facilitators and peer support groups, can offer both emotional validation and practical guidance. This personalized approach ensures that APs receive the specific support they need, which will in turn improve their emotional resilience and overall wellbeing (Premanandan et al., 2024). At the same time, the personalised approach will incorporate cultural and contextual factors as experienced by the APs since the facilitator and all APs in the group are from the same context and influenced by the same phenomenon. The results from this study, focusing on the context and situational needs of APs and the design of the BEACON of Hope as an example of a digital intervention, contribute to an increased understanding of person-and family-centred health services.

To create a safe, organised, and encouraging environment in an online peer support group, a facilitator in a moderating role must be present. Discussions are facilitated, participants are kept focused and respectful, and negative interactions or false information are avoided with the help of facilitators. Their function is crucial in sensitive situations where participants may share emotionally filled experiences, including helping those affected by substance abuse. In order to ensure that every voice is heard and respected, a facilitator fosters equitable involvement, validates participants' emotions, and encourages engagement.

In addition to maintaining order, facilitators offer participants emotional and informational support by identifying new problems, offering advice, and, if needed, connecting them with appropriate resources. They contribute to creating an environment of accountability, trust, and a feeling of community, all of which improve participants' overall experience and resilience. Moderators enable group members to communicate openly, work together to create coping mechanisms, and improve their social and mental health by creating an environment of empathy and understanding.

Sub-research Question 3.3: What are the potential barriers and challenges in implementing digital health interventions for APs, and how can these be overcome to ensure accessibility and effectiveness?

Barriers to implementing digital health interventions for APs include technological limitations, such as internet access, lack of digital literacy, and unfamiliarity with using online platforms. Overcoming these barriers requires the design of user-friendly platforms, the provision of training or guidance on using the technology and ensuring that interventions are accessible to people in diverse socio-economic contexts. Additionally, addressing privacy concerns and ensuring that the platform is culturally sensitive are essential for improving accessibility and effectiveness (Chan et al., 2024).

The study identified several issues shaping APs' adoption and efficacy of digital interventions. Significant challenges to effective use were found to be the digital divide and technological constraints, such as restricted internet access, low digital literacy, and unfamiliarity with online platforms. Furthermore, many interventions were not designed with tech-savvy users in mind, leading to usability issues and reduced accessibility. Socioeconomic disparities worsened these problems, as APs in environments with limited resources were more likely to be excluded from digital health solutions because of infrastructure and cost constraints. Privacy and cultural-sensitivity issues also surfaced, with concerns about confidentiality violations and interventions that did not consider APs' cultural backgrounds, which had a detrimental effect on trust and participation.

Several strategies can be taken into consideration to improve the efficacy and accessibility of digital interventions for APs. To accommodate low-literacy users, platforms should have clear, easy-to-use designs with minimal navigation, multilingual support, and visual aids. Building confidence and proficiency with these digital technologies can be facilitated by training and support for digital literacy, such as simple-to-follow instructions, workshops, or instructional videos. Connectivity and pricing issues can be addressed with cost-effective access methods, such as SMS-based solutions, offline capabilities, or zero-rated apps, especially in environments with limited resources. To ensure interventions are contextually relevant, culturally sensitive, and user-trusted, community leaders and APs collaborate on content design. Tailored cultural adaptation is also crucial.

A few suggestions can be made to improve the effectiveness of digital interventions for APs. Investment in digital health equality is crucial at the policy level, with governments and non-governmental organisations promoting inclusive digital health initiatives, cost-effective devices, and rural internet infrastructure. Blended care models that improve user engagement and treatment continuity can be created by combining digital interventions with existing in-person health services. For platforms to be changed regularly based on AP input and to optimize effectiveness, ongoing monitoring and feedback mechanisms should be put into effect that evaluate user experience. Lastly, to reassure consumers, foster trust, and encourage continued use of digital health solutions, a privacy-first strategy that includes secure encryption and open data protection regulations is essential.

7.3.3 Research question 3

The sub-research questions are first considered to form the basis of the second research question's answer.

Research Question 3: How can Digital Health interventions be effectively utilised to support APs and improve their wellbeing while caring for individuals with substance addiction?

By providing psychological, educational, and social level assistance through online platforms, digital health treatments can be used to help APs and enhance their wellbeing while caring for people with substance addiction. In addition to boosting treatment retention among the individuals they care for, digital health systems offer instant emotional and stress-management tools that reduce caregiver burnout and anxiety (Zhai et al., 2023).

In substance use dependency contexts, digital continuing-care techniques, such as text/instant messaging, smartphone apps, and structured telephone counseling, have also been shown to offer ongoing support and reduce relapse rates. These strategies work well because they address practical obstacles that keep caregivers from receiving traditional in-person support services, such as transportation issues and conflicting obligations (McKay, 2022; Luetke Lanfer et al., 2025; Rahman et al., 2024).

The capacity of digital health interventions to provide customised educational content through applications and interactive voice response devices is their exceptional strength. By equipping APs with the coping mechanisms they need to handle the difficulties of supporting someone with substance addiction, such scalable content builds caregiver knowledge and resilience.

Peer support through social networking apps and online platforms provides secure, stigma-free community spaces for individuals in recovery and caregivers to share experiences. These areas promote solidarity and lessen caregiver loneliness and strengthen social support systems.

APs can access resources whenever it is most convenient for them. For caregivers who balance multiple responsibilities or reside in underserved areas with little access to professional services, this is particularly important. Studies on digital equality demonstrate how this adaptability increases the effectiveness and inclusivity of digital health solutions for a range of caregiving groups.

Finally, digital interventions ensure continuity of care and alignment between AP demands and the drug use treatment ecosystem when integrated into larger treatment systems, such as hybrid telehealth-in-person models. In addition to improving caregivers' well-being, this integration helps the prognosis of people with substance addiction.

In conclusion, digital health is an effective tool for improving caregiver resilience, reducing isolation, and promoting efficient care in the context of drug addiction, thanks to its unique blend of immediacy, scalability, customisation, and integration.

7.4 Reflection on research

This research was both tough and enlightening. The journey veered from the original plan, leading to unforeseen complications. The extent of participants' emotional sensitivity was unexpected and highlighted the importance of establishing a secure and encouraging environment. Dealing with

participants' technical obstacles to using online platforms and negotiating ethical issues while handling delicate subjects were challenges. Among the lessons learnt were the importance of flexibility, tolerance, and sympathetic communication in fostering meaningful interaction and establishing trust. Differences were found between the plan and the actual procedure; for example, recruitment took longer than expected, necessitating the use of alternate tactics to ensure participation.

7.5 Contributions

Although not intended to produce groundbreaking contributions, this study offers insights that fill identified knowledge gaps and enhance existing understanding of APs' lived experiences and support needs.

7.5.1 Knowledge contribution

This study provides a nuanced account of APs' lived experiences, emphasising their challenges, roles, and emotional burdens in supporting individuals with substance addiction. It also identifies their coping strategies and needs for targeted support.

The phenomenon under study, substance addiction and the lived experiences of APs supporting such individuals, is rooted within complex social, environmental, and relational contexts. These compromised lived experiences of APs are not experienced in isolation but are constructed across various layers of interaction. This can be conceptualised as the “Me,” “Me+,” and “Me++” dimensions where the “Me” represents the individual AP's internal experiences, including cognitive-emotional and physical responses; the “Me+” reflects interactions with nearby family, peers, and support networks; and the “Me++” encompasses broader social, institutional, and community influences that ultimately shape the AP's environment and sense of coherence.

By combining SST and SoC, a comprehensive lens for understanding these dynamics is provided. SST stresses how emotional, informational, instrumental, appraisal, esteem, companionship, and self-regulation support buffer stress and promote wellbeing (House, 1981; Cohen & Wills, 1985). SoC, in its turn, indicates how APs interpret their circumstances as manageable and meaningful, thereby influencing their capacity to cope with stressors and maintain resilience (Antonovsky, 1987).

Placing the APs' compromised lived experiences within these frameworks allows the study to capture both the internal coping capacity and the external relational support systems that interact with each other to

influence a person's well-being. This perspective also allows for a deeper understanding of how challenges are navigated across different layers and reveals how personal, interpersonal, and community resources collectively shape APs' adaptive responses. Furthermore, the interconnection between SST and SoC, illustrates how meaning-making, resilience, and supportive networks come together to regulate the effects of a compromised lived experience. This guides recommendations for interventions that are for both person- and family-centred.

- **Compromised lived experience concept:** The concept of compromised lived experience contributes to a better understanding of when a person's lived experience is negatively affected by factors associated with a phenomenon that makes people feel unsafe in their life worlds. Using dimensions of a lived experience to interpret the implicit meaning of a lived experience provides mechanisms for a situational inquiry. The dependencies among these dimensions, and their collective relationship to the lived experience, may require further research to expand the Interpretive Phenomenology Analysis (IPA) body of knowledge by developing a typology of compromised lived experiences for stronger theoretical grounding.
- **Theoretical.** Additional theoretical contributions include the use of the SoC and SST theories, individually and in combination, to gain a better understanding of a compromised lived experience. These theoretical lenses align well with studies in resource-restricted, underserved, developing contexts. Community-based research can also benefit from these theories. Additional social support categories were identified that need to be incorporated, through further research, into the current SST framework to support persons with a compromised lived experience.
- **Disciplinary contribution:** The results of this study primarily contribute to the intersection of the health, informatics, and social science disciplines. The design and use of appropriate digital interventions, based on people's situated, compromised lived experience, contribute to the subfields of Human-Computer Interaction, Digital Intervention Design, ICT4D, Social Informatics, Community Informatics, etc. Digital Interventions are an important component of digital health, and by focusing on compromised lived experiences when designing such interventions, they contribute to a person-centred and salutogenic health orientation in healthcare, thereby adding greater clarity to person and family-centred healthcare. This study makes a valuable contribution to the field of Nursing Informatics because the researcher approached digital intervention design from a user-centric angle, rather than from a purely technological perspective. As a professional nurse, she can bring health-specific insights

that ground the intervention in clinical realities and tie it to caregiving needs. Coming from outside a formal informatics training and background further strengthens the contribution by ensuring the application remains accessible, relevant, and responsive to end-users rather than being driven solely by technical considerations.

7.5.1.1 Prescriptive (representation & design process) methods used, affordances, chat guidelines, rules of participation)

The research offers a structured representation of the intervention design process. It emphasised the importance of integrating APs' feedback into the development of an online peer-led social support system. Knowledge gained from using different methods during the design process contributes prescriptive knowledge to the design body of knowledge, in addition to design principles as descriptive knowledge. The characteristics of the proposed BEACON of Hope intervention, as an instance of a digital intervention using social media, contribute to a global repository of digital interventions to guide the creation of user-centred innovative solutions. These solutions are situated and context sensitive, where persons' lived experiences are compromised.

7.5.1.2 Conceptual (concepts & constructs)

The contribution of this conceptual framework is found in its integration of theory with lived experience. It offers explanatory depth and experiential grounding. By placing SoC at the core, the framework provides a structured lens, through which the coping mechanisms of APs can be interpreted. This highlights the social mechanisms of comprehensibility, manageability, and meaningfulness. Expanding on this, the incorporation of the Salutogenic Theory extends the analysis, surpassing a pathology to a continuum of health, shifting the focus toward resilience, resource mobilization, and pathways to well-being. The addition of Social Support Theory strengthens the framework by contextualizing coping within relational and community-based networks, simultaneously detailing the types of support (emotional, informational, instrumental, appraisal, self-regulation, esteem, companionship) that buffer stress and sustain resilience. Lastly, grounding the framework in the lived experiences of APs validated its relevance and authenticity, making the framework applicable to the realities of those affected by SUD.

The framework offers a comprehensive, theory-based yet experience-based perspective that clarifies how APs manage the challenges posed by SUD while also emphasising opportunities for support, resource utilisation, and resilience.

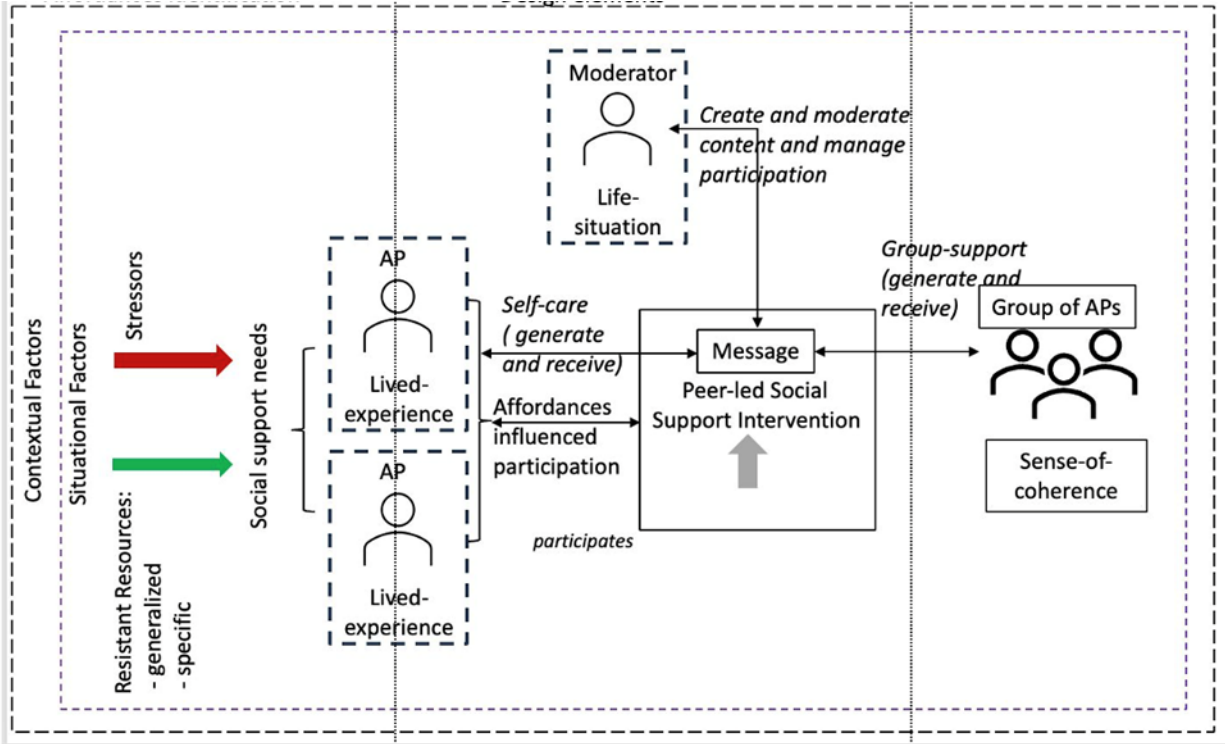


Figure 43: Conceptual framework

7.5.2 Methodological contribution

The study's innovative combination of IPA with digital intervention design provides valuable insights into APs' needs. This methodological approach highlighted the importance of integrating theoretical frameworks with practical intervention strategies to inform the development of effective digital health solutions. The importance of a situational, context-sensitive inquiry is highlighted by the results obtained to get a better idea of the APs experiences in their life worlds as influenced by taking care of individuals with a substance addiction problem. Using different design-informed methods to collect data yielded rich insights into APs' lived experiences. It also helped identify the stressors and protective resources that shape their lived experiences in that context. The research was conceptually framed to ensure a holistic approach was followed. The baseline study consists of a situational and contextual inquiry; stakeholder analysis to include relevant stakeholders in the process; and a needs analysis of the APs. Qualitative data were collected using open-ended interviews, body mapping, take-home diaries, and stakeholder mapping.

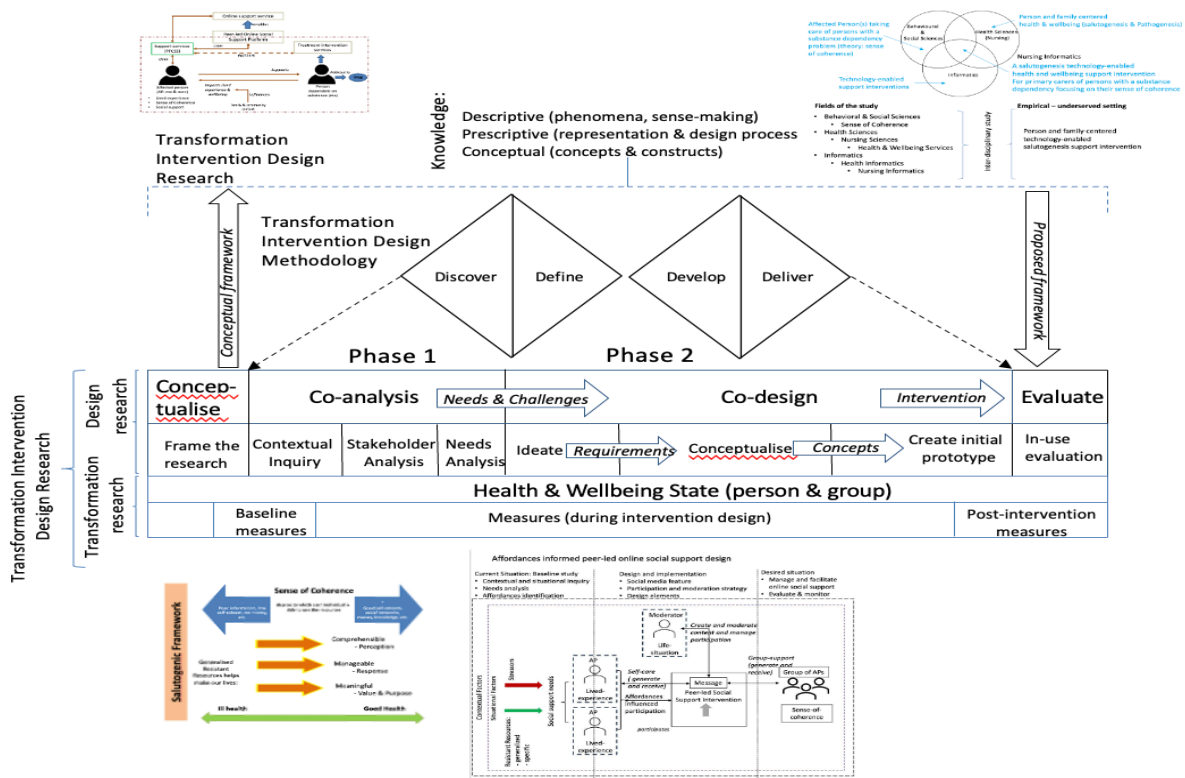


Figure 44: A combined conceptual framework for digital intervention design

7.5.3 Practical contribution

7.5.3.1 Peer-led online social support intervention design using social media

Proposed guidelines for designing peer-led social support interventions using social media emphasise fostering inclusivity, trust, and cultural sensitivity. These include strategies for repository development, digital design principles, and leveraging social media features to enhance engagement and the moderator role of the facilitator to facilitate active participation in a safe space.

7.5.3.2 Peer-led online social support intervention prototype

The prototype demonstrated the feasibility of utilising social media for AP-led interventions, showcasing its potential to facilitate meaningful peer connections, share resources, and provide emotional support. (Refer to Appendix 7 for detailed guidelines).

7.6 Further research

Future research could explore the long-term impacts of peer-led social support interventions on APs' wellbeing and caregiving efficacy. Additional studies might investigate the scalability of these interventions across diverse cultural and geographical contexts, or develop advanced digital health tools for enhance personalisation and accessibility. Examining the integration of AI-driven moderation systems in maintaining safe and productive online environments could also prove valuable.

7.7 Chapter Conclusion

This chapter reflects on the research process, its contributions, and potential future directions. By integrating digital health platforms and innovative informatics approaches, the study demonstrates how technology can be leveraged to provide accessible, scalable, and tailored support for APs in underserved contexts. The findings contribute to the fields of digital mental health and health informatics by offering evidence on the design, implementation, and evaluation of online peer-led interventions. Furthermore, by addressing gaps in existing knowledge and proposing practical, person-centred intervention designs, the study lays a foundation for enhancing the well-being and resilience of APs, informing policy, practice, and future research in both local and broader contexts. It concludes with recommendations for further studies to refine digital interventions, strengthen support networks, and ensure sustained improvements in APs' experiences and mental health outcomes.

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APPENDIX 1: WORKBOOK

Body Mapping

Body mapping has been generally defined as *"the process of creating body-maps using drawing, painting, or other art-based techniques to visually represent aspects of people's lives, their bodies and the world they live in"* –GASTALDO

Activity 1: The meaning of colour

What associations do you have with colours?

Red.....

Blue.....

Yellow.....

Black.....

White.....

Other(s)?

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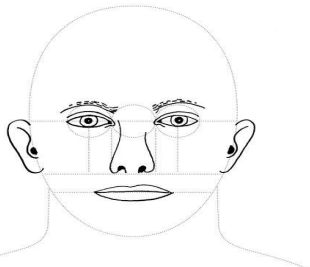
Activity 2- Tracing outlines, writing name/nickname, surname and date of birth

Activity 3- Early childhood & school years

Activity 4- Drawing exercise – Portraiture

A portrait is a painting, photograph or sculpture of a person, in which a face and its expression is the main elements, displaying the likeness, personality, and mood of a person. **Instructions:** study your face in the mirror (or on a picture). Look at your eyes in relation to your ears and nose, and the proportions of your face above and below your eyes. Participants are asked to quickly draw their portraits as reflected in their mirrors.

EXAMPLES:



Activity 5- Drawing exercise – The skin, Bo

ers

Apply skin markings & bodily markings and psychological markings (See annexures 1-3).

Activity- 6: Symbols – Conceptual drawing

A symbol is a material object that represents something abstract. Select symbols from Annexure 4, and/or come up with others you may think of. This self-reflective symbol best represents your character and strength. Draw it on your body map with reference to the meaning of colour. You may indicate more than one symbol.

Activity- 7: Life stories after school to the present

Activity 8: The shadow

These are the names of people (relatives, friends, teachers, community members, employers, leaders and mentors, organisations, objects, etc.) who were supportive and caring at different stages of your life, especially those who stood by you during difficult times. Write it below and indicate it all on your body map.

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Activity 9: Hopes for the future

Write about your hopes for the futures. Indicate it in a sentence on your body map (e.g. *“Learn from yesterday, live for today, hope for tomorrow.”*).

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Activity 10: Reflection

- What have you learned about yourself during this workshop?

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- What have you learned about other participants?

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- Explain which exercises you liked the most, and which did you like the least?

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• Do you see yourself continuing to write your life story, or autobiography, after the workshop now that you have made a start?

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• How do you feel about your body map, and also as testament and memorial to your life?

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• Looking at your map, what stands out for you?

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• How did you find choosing a symbol? Why did you choose it?

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- What did you find the most challenging?

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- Do you feel the body mapping was useful?

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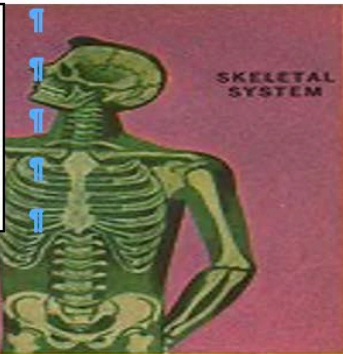
APPENDIX 2: SKIN MARKINGS

COMMON SKIN MARKINGS	
Beauty spots	Dark moles or freckles commonly found on the face.
Freckles	Small darker patches on the skin that often become pronounced with sun exposure.
Burns	Second- and third-degree burns can cause scars. Deeper burns develop darker scars while shallow scars are lighter or may not scar at all. Oil follicles are damaged so scarred areas are hairless.
Moles	Oval or round, symmetrical growths on the skin that are typically brown or black. Moles can occur anywhere on the skin, alone or in groups. Most appear in early childhood and during the first 25 years of a person's life.
Birthmarks	Congenital irregularities of the skin that are present at birth or appear after birth, and occur anywhere on the skin.
Chicken pox marks	Caused by a highly contagious virus and characterized by itchy red blisters that appear all over the body that mostly affects children and can leave scars.
Vaccines	Both smallpox and BCG vaccines leave a scar, mostly on the upper arm.
Stretch marks	Long, narrow streaks or stripes that occur when the skin is stretched quickly. Pregnancy, puberty and rapid weight gain can cause stretch marks.
Scars inflicted by hard objects	Permanent markings from torture, beatings, wounds inflicted by knives, bullets or surgical operations.

COMMON TYPES OF SKIN CONDITIONS	
Eczema	Eczema causes the skin to become inflamed and itchy, most commonly appearing on the face, back of the knees, wrists, hands and feet.
Acne	Pimples that appear when the passageway connecting the skin pores to the oil glands become blocked and mostly appears on the face, shoulders, chest and back.
Warts	Small growths on the skin that appear anywhere on the body. They are very common, mostly among children and teenagers. Warts can be removed with liquid nitrogen but they mostly disappear on their own.
Athlete's foot	An itchy, contagious fungal infection that affects the skin on the feet. It can spread to the fingernails and the hands.
Shingles	A viral infection that causes a painful rash anywhere on the body but mostly occurs as a single stripe of blisters that wraps around the left or right side of the torso.
Baldness	Excessive hair loss affects all men as they grow older. Hair loss usually begins at the temples, with the hairline gradually receding. Female baldness is more common after menopause.

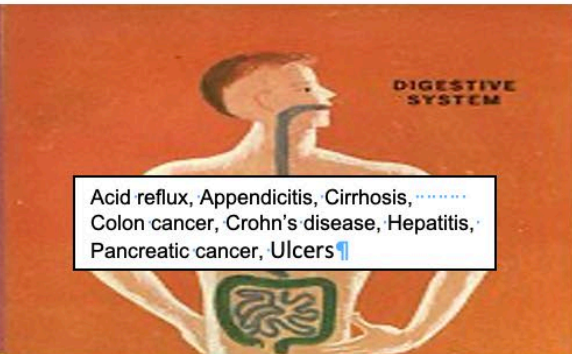
ANNEXURE 2: BODILY SYSTEMS WITH DISEASES

Arthritis, Osteoporosis, Rheumatoid Arthritis, Bone Cancer, Bone Density, Bone Infections, Osteogenesis



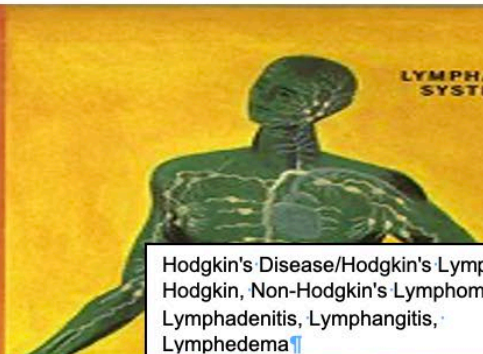
SKELETAL SYSTEM

Acid reflux, Appendicitis, Cirrhosis, Colon cancer, Crohn's disease, Hepatitis, Pancreatic cancer, Ulcers

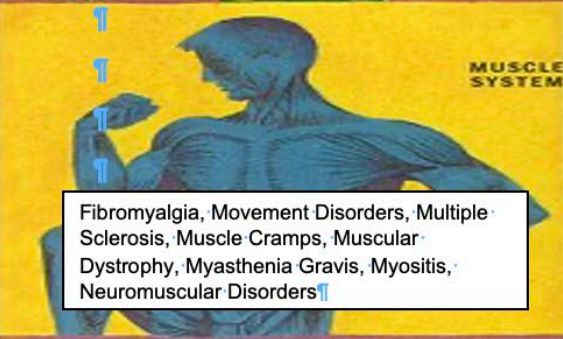


DIGESTIVE SYSTEM

Hodgkin's Disease/Hodgkin's Lymphoma, Non-Hodgkin's Lymphoma, Lymphadenitis, Lymphangitis, Lymphedema

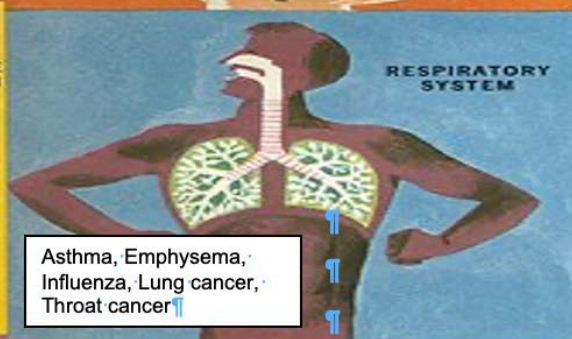


LYMPH SYSTEM



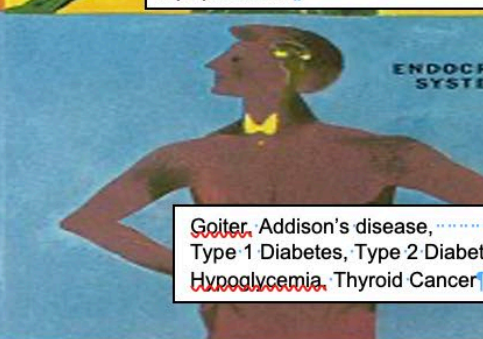
MUSCLE SYSTEM

Fibromyalgia, Movement Disorders, Multiple Sclerosis, Muscle Cramps, Muscular Dystrophy, Myasthenia Gravis, Myositis, Neuromuscular Disorders



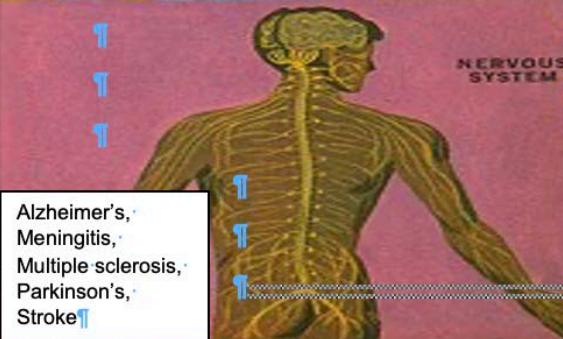
RESPIRATORY SYSTEM

Asthma, Emphysema, Influenza, Lung cancer, Throat cancer



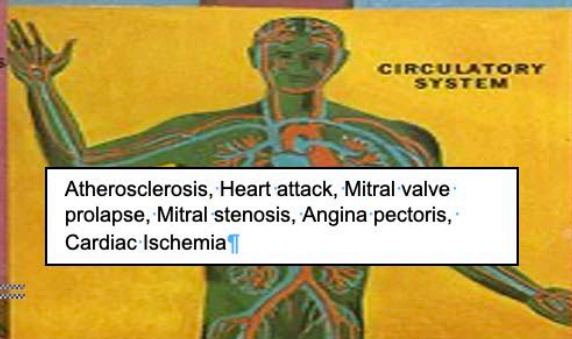
ENDOCRINE SYSTEM

Goiter, Addison's disease, Type 1 Diabetes, Type 2 Diabetes, Hypoglycemia, Thyroid Cancer



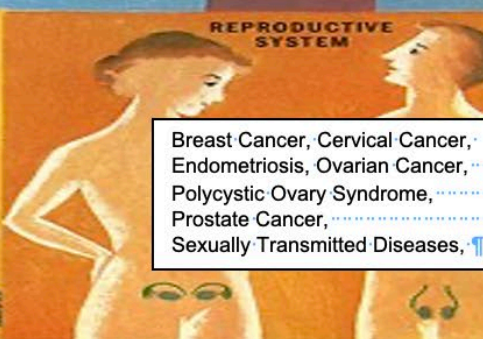
NERVOUS SYSTEM

Alzheimer's, Meningitis, Multiple sclerosis, Parkinson's, Stroke



CIRCULATORY SYSTEM

Atherosclerosis, Heart attack, Mitral valve prolapse, Mitral stenosis, Angina pectoris, Cardiac Ischemia



REPRODUCTIVE SYSTEM

Breast Cancer, Cervical Cancer, Endometriosis, Ovarian Cancer, Polycystic Ovary Syndrome, Prostate Cancer, Sexually Transmitted Diseases

ANNEXURE 3: PSYCHOLOGICAL CONDITIONS















<https://www.healthyplace.com/other-info/mental-illness-overview/list-of-mental-illnesses>



<https://www.beyondthecouch.org.uk/disorders.html>

ANNEXURE 4: SYMBOLS

SOME SYMBOLS AND THEIR MEANINGS	
<p>Elephant Strong, empathetic, ambitious, protective.</p>	<p>Cat Independent, vigilant, territorial, curious.</p>
	
<p>Tortoise Deliberate, patient, invulnerable to attack.</p>	<p>Donkey Hardworking, patient, humble.</p>
	

<p>People in a circle Friendship, cooperation, community-minded.</p>	<p>Rainbow Positivist, hopeful, idealist, optimist. The colors of a rainbow are: red, orange, yellow, green, blue, indigo and violet.</p>
	
<p>An untieable knot Oneness, unity, commitment.</p>	<p>Sickle and hoe Hardworking, hope in a fruitful harvest.</p>
	
<p>Tree Life, knowledge, connection for ancestors and family.</p>	<p>Book Quest for knowledge, scholarly, spiritual.</p>
	
<p>Candle Light, life, spiritual.</p>	<p>Flower Love, compassion, beauty.</p>
	

<p>Dog Courageous, vigilant, loyal.</p>	<p>Fish Communal, life giving.</p>
	
<p>Bee Hardworking, productive, communal.</p>	<p>Pitcher Provider, container of life.</p>
	
<p>Dove Peace loving, freedom loving.</p>	<p>Watering can Service, nurturing.</p>
	
<p>Heart Empathy, compassionate, loving, sincere.</p>	<p>Scales Justice, quest for truth.</p>
	

APPENDIX 2: COMPREHENSIVE SOCIAL SUPPORT CATEGORIES WITH EXAMPLES

Category	Subcategory	Source	Definition
Information Support	Advice	Original (Cohen & Wills, 1985)	Provides the recipient with advice, suggestions, or guidance to support decision-making.
	Resourcefulness	New (Researcher)	Sharing creative, practical solutions or personal experiences to help manage challenges.
	Recommendation	Original (Cohen & Wills, 1985)	Provides a source of expertise or refers to a service for assistance.
	Teaching	Original (Cohen & Wills, 1985)	Sharing factual information about a condition or process to improve understanding.
	Confirmation	New (Researcher)	Verifying, affirming, or validating information or experiences shared within the group.
	Advocacy	New (Researcher)	The act of supporting and empowering individuals within the online peer support community by promoting their rights, needs, and wellbeing.
	Emotional Support	Affection	Original (Cohen & Wills, 1985)
Sympathy		Original (Cohen & Wills, 1985)	Expressed pity or sorrow for the distress of others

	Encouragement	Original (Cohen & Wills, 1985)	Provide hope, confidence, strength and new information that can be helpful to overcome the recipient's situation
	Prayer	Original (Cohen & Wills, 1985)	Offers of prayer messages for members who were suffering or in need of help
	Relief of blame	Original (Cohen & Wills, 1985)	Alleviate another's feelings of guilt
	Understanding	New (Researcher)	Understanding others' feelings and situations helps to provide emotional comfort and support.
	Compassion	New (Researcher)	Showing care and concern for others' well-being, providing emotional reassurance and comfort.
	Concern	New (Researcher)	Caring about someone's well-being, providing emotional comfort and support.
	Celebrating small wins	New (Researcher)	Acknowledging minor achievements to build motivation and resilience.
	Boost each other's optimism	New (Researcher)	Encouraging hope and positive thinking among group members.
	Mutual support	New (Researcher)	Reciprocal emotional or practical help between members.

Self-Regulation	Coping Strategies	Original (Cohen & Wills, 1985)	Supporting members in regulating emotions and managing challenges.
Esteem Support	Validation	Original (Cohen & Wills, 1985)	Providing reassurance and boosting participants' confidence and self-worth.
	Compliment	Original (Cohen & Wills, 1985)	Positive comments about the recipient
	Admiration	New (Researcher)	Expressing respect or appreciation for someone's qualities or efforts.
	Acknowledgement /Recognition	New (Researcher)	Validating someone's presence, efforts, or contributions.
Companionship	Belonging/Presence	Original (Cohen & Wills, 1985)	Fostering a sense of community and shared experience to reduce isolation.
	Sharing personal experiences	Original (Cohen & Wills, 1985)	Straightforward sharing of personal conditions, thoughts and feelings in response to the recipient's post
	Openness	New (Researcher)	Encouraging group members to engage, share, and participate, which fosters a sense of community and interaction within the group. This promotes companionship and supportive group dynamics.
	Concurrence	New (Researcher)	Agreement with others, promoting a sense of unity and shared understanding within the group.

	Agreement	New (Researcher)	Shared understanding, consensus, and harmony within a group or between individuals
	Anticipated gratitude	New (Researcher)	
Emotions Negative	Anger	Original (Cohen & Wills, 1985)	Expression of feelings of anger
	Fear	Original (Cohen & Wills, 1985)	Expression of feelings of fear
	Sadness	Original (Cohen & Wills, 1985)	Expression of feelings of sadness
	Worry	New (Researcher)	An expression of anxiety or unease about potential problems or outcomes.
	Frustration	New (Researcher)	A feeling of being upset or annoyed, often due to an inability to achieve something or a situation not going as expected.
	Resignation	New (Researcher)	A feeling of accepting something undesirable but inevitable, often accompanied by a lack of hope or motivation to change the situation.

	Disapproval	New (Researcher)	Expression of an unfavorable opinion, indicating dissatisfaction or disagreement.
	Hurt	New (Researcher)	Pain, distress or emotional injury
	Heartbreak	New (Researcher)	Intense emotional pain and sadness, typically associated with the loss of a loved one or a significant relationship ending.
	Distress	New (Researcher)	Extreme anxiety, sorrow, or pain caused by a difficult or challenging situation.
	Sorrow	New (Researcher)	Deep sadness shared or expressed in response to challenges.
	Confusion	New (Researcher)	Expressing uncertainty or lack of understanding during difficult situations.
	Helplessness	New (Researcher)	A feeling of being powerless to cope or assist in difficult circumstances.
	Exhaustion	New (Researcher)	Extreme physical or emotional fatigue from caregiving stress.
	Overwhelmed	New (Researcher)	Feeling emotionally overloaded due to multiple or intense challenges.
Emotions	Happiness	Original (Cohen & Wills, 1985)	Expression of feelings of happiness and/or excitement

Positive			
	Hope	New (Researcher)	Hope conveys a positive outlook and an optimistic attitude toward the future.
	Anticipation	New (Researcher)	Conveys a positive and excited feeling about upcoming events or activities.
	Coping	New (Researcher)	Successfully coping with a situation can lead to feelings of relief, empowerment, and resilience.
	Appreciation	New (Researcher)	Feeling grateful, thankful, or recognizing the value of something or someone.
	Determination	New (Researcher)	A strong sense of motivation, perseverance, and drive, which are positive emotional states.
	Peace	New (Researcher)	Sense of tranquility, calmness, and inner harmony.
	Accomplishment	New (Researcher)	Sense of achievement, satisfaction, and pride in completing a task or reaching a goal
	Generosity	New (Researcher)	Excitement, eagerness, and expectation about future events or outcomes.
	Enthusiasm	New (Researcher)	Excitement, passion, and energy towards something or someone.

	Touch of humour	New (Researcher)	Lighten the mood, create laughter, and foster a positive atmosphere
	Sense of seeking positivity, strength & hope	New (Researcher)	Optimistic outlook and resilience in facing challenges
	Nostalgia	New (Researcher)	Fond memories and can bring feelings of happiness, comfort, and warmth.
	Introspection	New (Researcher)	Self-reflection, self-awareness, and understanding one's thoughts, feelings, and motivations.
	Emotional release	New (Researcher)	Expressing emotions in a healthy way
	Excited	New (Researcher)	Feeling eager, enthusiastic, and energized about something positive or upcoming.
	Resilience	New (Researcher)	Ability to bounce back from adversity, showing strength, adaptability, and perseverance.
	Sense of duty	New (Researcher)	Feelings of fulfillment
	Sense of relief	New (Researcher)	Feeling of reassurance, relaxation, or release from stress, anxiety, or tension after a period of difficulty, uncertainty, or worry.

	Thankfulness	New (Researcher)	Feeling grateful, appreciative, and acknowledging the kindness, support, or blessings received from others or from life in general
	Focus	New (Researcher)	Concentration, clarity of mind, and the ability to direct one's attention and efforts toward a specific task or goal
	Innovation	New (Researcher)	Creativity, problem-solving, and the ability to generate new ideas, products, or processes. It often leads to feelings of excitement, inspiration, and achievement
	Forward thinking	New (Researcher)	Planning ahead to achieve long-term goals
	Warmth	New (Researcher)	Gracious and welcoming. You make people feel good; cared about.
	Strength	New (Researcher)	The ability to endure challenges and support others emotionally.
	Confidence	New (Researcher)	A sense of self-assurance gained through support and encouragement.
	Creativity	New (Researcher)	Generating helpful ideas or solutions to cope with challenges.
	Comfortability	New (Researcher)	Feeling safe, accepted, and at ease within the support group.

	Connectivity	New (Researcher)	A sense of belonging and strong social bonds with others.
	Promotion of self regulation	New (Researcher)	Encouraging members to control their emotions and behaviors constructively.
	Manage emotions	New (Researcher)	Supporting emotional balance in stressful or triggering situations.
	Manage stress levels	New (Researcher)	Using coping strategies and support to reduce emotional and mental pressure.
	Praise	New (Researcher)	Offering positive feedback to affirm someone's actions or strengths.

APPENDIX 3: ETHICAL APPROVAL LETTER



P.O. Box 652 • Cape Town 8000 South Africa • Tel: +27 21 469 1012 • Fax +27 21 469 1002
80 Roeland Street, Vredehoek, Cape Town 8001

Office of the Research Ethics Committee	Faculty of Informatics and Design
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31 August 2020

This serves to confirm that ethics approval was granted to Ms Chantal Settley, student number 215176030, for research activities related to the PhD Informatics in the Faculty of Informatics and Design, Cape Peninsula University of Technology (CPUT).

Title of thesis:	Person- and family-centered support services (PFCSS) for persons supporting substance dependent individuals: A technology-enabled intervention approach
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Comments

Research activities are restricted to those detailed in the research proposal.

 <hr/> Signed: Faculty Research Ethics Committee	31 August 2020 <hr/> Date
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APPENDIX 4: CONSENT FORMS



NRF BILATERAL RESEARCH CONSENT FORM

The aim of this research project is to co-create new or improved services that are relevant for youth groups to address the needs and challenges they experience.

INFORMATION ABOUT TODAY'S SESSION

<p>Who is facilitating today's session? *Name all session facilitators and their institutions</p>	
<p>What will we do today? *Briefly describe the type of activities and the goals of the session.</p>	
<p>What will you learn today? *briefly describe benefits of this workshop</p>	

PLEASE COMPLETE THE FOLLOWING:

I acknowledge that I am willing to participate:

_____ (name)

A) Permission to record me through audio/ video/photographic media, to be used in academic publications (your name and identity will not be used).

Please can you tick yes (agree), or no (disagree) to show what you are willing to share, if the materials will be used in academic journals. Data generated by this workshop will be stored securely.

Yes	No
Yes	No
Yes	No

Audio Recordings: Recorded talking from discussions and interviews.

Video Recordings: *Remember, a video can also have your voice in it.

Photography: Photographs of you taking part in the session.

B) Permission to be published through audio/ video/photography in social media (your name and identity will be shown): Website, Facebook, Twitter.

Please can you tick yes (agree), or no (disagree) to show if you are happy to be on the internet. The videos, pictures or recordings will be visible to anybody and can also be shared with others.

Yes	No
Yes	No
Yes	No

Audio Recordings: Recorded talking from discussions and interviews.

Video Recordings: *Remember, a video can also have your voice in it. Video recordings may be uploaded in an unedited form.

Photography: Photographs of you taking part in the session.

C) Permission to publish all created workshop materials (for example drawings, posters, diagrams, audio, video, photographs etc.) on the internet/social media, in academic journals and physical exhibitions.

Please can you tick yes (agree), or no (disagree) to show which materials that we are going to produce in this workshop you are willing to be uploaded to social media. The uploaded media will be visible to anybody and can also be shared with others.

Yes	No
Yes	No
Yes	No
Yes	No

Audio Recordings: Recorded talking from discussions and interviews.

Video Recordings: *Remember, a video can also have your voice in it. Video recordings may be uploaded in an unedited form.

Photography: Photographs of you taking part in the session.

Other workshop materials: drawings, posters, diagrams etc.

VOLUNTARY PARTICIPATION

Feel free to ask the facilitators as many questions as you like. Once you are happy to take part please ✓@tick yes to indicate that you agree to being part of this session.

Yes	I know that I may withdraw from the study at any time and will not be advantaged or disadvantaged in any way.
Yes	I know that I can stop the audio/ video/ photographic record of the interview at any time without consequence.

Participant Signature: _____ Date and Place: _____

Research Leader Signature: _____ Date and Place: _____

If you have any queries about this form or encounter problems, please contact:

Principal Investigator (South Africa):

Prof Retha de la Harpe
Department of Research, Innovation and Partnerships
Cape Peninsula University of Technology
80 Roeland Street, Cape Town
delaharper@cput.ac.za
+27 82 887 7369

Informed consent

1. Please enter your first name and surname if you understand what informed consent means as described below:

If you volunteer to participate in the study the following will be done:

Purpose of the study

It is explained to you in the introduction part of this communication so that you are informed about what to expect

Contact researcher

You are welcome to contact the researcher directly if there is anything that you would like to ask for more clarity.

Your responses

Your response will be treated with full confidentiality and that, if published, it will not be identifiable as yours.

Leaving out answers

You may omit answering questions if you do not want to answer except in cases marked as compulsory because we need your input for that specific question.

No risk

The questions do not pose any realistic risk of distress or discomfort, either physically or psychologically, to you.

Feedback

We will provide you with feedback at the end of the research if requested.

Voluntarily participation

You will be free to withdraw your participation at any time without having to give a reason.

Your surname and first name:

.....

2. Please enter your location

.....

3. I understand the purpose of the research (Please mark with an 'X')

YES	
NO	

4. I understand what the research requires of me (Please mark with an 'X')

YES	
NO	

5. I volunteer to participate in the research (Please mark with an 'X')

YES	
NO	

6. I know that I can withdraw at any time (Please mark with an 'X')

YES	
NO	

7. I agree that my responses may be used, without any identifiable information, in academic publications in voice recordings, video recordings, photos and/or other designs or creations (Please mark with an 'X')

YES	
NO	

8. I agree that my responses, without my identifiable information, may be posted on social media in the form of voice recordings, video recordings, photos, designs and/or other creations (Please mark with an 'X')



YES	
NO	

9. I agree that my creations may be used in exhibitions, identified as my creation (Please mark with an 'X')

YES	
NO	

Thank you for your participation. We really appreciate your time!



APPENDIX 5: INTERVIEW INSTRUMENT



SECTION A: BIOGRAPHICAL AND DEMOGRAPHICAL INFORMATION

This section of the questionnaire refers to your background information. Mark your answer with an X in the appropriate space.

1. How old are you?

.....

2. Gender/ Geslag

Male/ Manlik	
Female/ Vroulik	
Other/ Ander	

3. Home language:

.....

4. What is your marital status?

.....

5. What is your highest level of education?

.....

Are you currently employed?

Yes/Ja	
No/Nee	

SECTION B: LIVED EXPERIENCES

COMPREHENSIBILITY

This section of the questionnaire refers to your lived experiences. As there are life domains that I wish to learn about you.

6. Tell me about yourself.

- When and where were you born and raised?
- How would you identify yourself? (Self-identification is how you see yourself or identifying yourself with someone or something else. An example of self-identification is to see yourself as a great father)
- What are your character traits?
- On a scale from 0-10, how strong of a person do you reckon you are?

7. What is your family and family life like?

- What is/was your family like? (relationships with siblings, cousins, other relatives etc.)
- Where were your parents from? How did they meet?
- What does/did your family like to do together?

8. What type of area/neighbourhood(s) did you grow up in and where do you live now?

- How was/is it like?
- Do you feel safe in the neighbourhood?

9. Describe your romantic life.

- What are your dating experiences?
- What are your dating preferences (if any)?

10. How would you describe your spiritual beliefs?

- How was spirituality talked about and/or practiced in your family?
- What is it like now?

11. What social and/or political causes are you passionate about and why?

- How would you describe your views on society and/or politics as a whole?

12. How do you think others (family, siblings, teachers, friends, strangers) see you and why?

- How do you feel about that?

13. Please explain your relation with the person suffering from addiction and the story of the person with the addiction?

- Tell me about the relationship you have with this person.
- How do you feel this behaviour/the addiction affects you?

Additional probes: Can you give me an example? Could you describe a typical _____? Tell me more about that. What was that like for you? How did you feel? How has that changed over time? Is there anything else you would like to add?

MANAGEABILITY

14. How well do you adjust to new situations?

- Do you welcome challenges?

15. Please explain any coping mechanisms used for your own wellbeing.

- What do you like to do for fun?

- What are your hobbies?

16. Please explain the nature of support that you have access to, if any.

MEANINGFULNESS

17. How have you been feeling in general recently?

- How are your spirits?
- How are you feeling?
- Have you been discouraged/depressed/low/blue lately?
- Have you been energized/elated/high/out of control lately?
- Have you been angry/irritable/edgy lately?

18. What do you do in times when you feel 'down'?

- Does it help?
- Is it healthy? Harmful?

19. How do you feel about your life and lived experiences?

- Is there anything you wish you could change and how?

20. Are you self-fulfilled in all aspects of your life?

- Do you feel happy?

21. Is there one act in your life that you're really proud of?

- Is there any achievement/event that you will never forget?

22. Do you feel like you need to control situations?

- Do you prefer to be in charge of situations?

23. How well do you express your emotions?

- What do you think about the phrase 'fake it till you make it'?
- Do you feel that you always need to (pretend to be strong?)

24. Thinking about your life, would you say it's balanced?

- Where or which aspect(s) needs attention?

25. Before you act, do you think of the consequences of your actions?

26. If you were to give yourself advise on problems (if any) in your life, what would it be and why?

27. How does the environment in Worcester influence your lived experience?

APPENDIX 6: DIGITAL TECHNOLOGY AND AI USE DECLARATION

I, CHANTAL SETTLEY, student number 215176030, registered for Doctor of Philosophy in Informatics in the Faculty of Informatics and Design declare that digital technologies, including AI-based tools, were used only for thesis writing, language editing, formatting, and research support. No personal or confidential participant data were uploaded to AI systems, in compliance with POPIA and the ethical standards of Cape Peninsula University of Technology. All intellectual work, analysis, and interpretations in this thesis are my own, and I remain fully responsible for its academic integrity.

1. Declaration of generative AI use

In accordance with the CPUT Plagiarism Policy, the Student Rules and Regulations, and the principles in the CPUT Student AI Practice Guide, I declare the following:

I have used digital technologies and generative AI tools, as detailed below.

2. Nature and extent of AI use

Please complete, where applicable, the digital technologies and AI use for each aspect. Please refer to the guidelines on Page 4 for more details about what is acceptable and what is not.

2.1 Research conceptualising (e.g., idea generation or topic refinement):

Tools, technologies, services	Reason for using it	to produce:
ChatGPT (free version)	Provide different methodologies for digital intervention design	From the suggestions the methods used in the study were developed and adapted by the supervisor and student from relevant literature.

2.2 Writing and editing (Outlining or structuring chapters, language correction, grammar, clarity, structure, summarising or paraphrasing text, etc.)

Tools, technologies, services	Reason for using it	to produce:

MSWord	Thesis content creation and editing	Digital Thesis
Grammarly	Minimal minor grammar corrections, mostly singular/plural and preposition corrections	Corrections only when indicated
ChatGPT (free version)	To propose suitable acronyms based on the features of the proposed digital intervention	From the list provided the acronym “BEACON of Hope” was selected as best suited for the intervention

2.3 Research visualising (e.g., images, diagrams, figures, etc.)

Tools, technologies, services	Reason for using it	to produce:
MS Powerpoint	To create and edit diagrams	Digital figures
Excel	To create graphs for demographic data	Demographical visualisations

2.4 Literature management (search and discovery, summarise, trends identification, and thematic organisation, citation or referencing assistance, etc.)

Tools, technologies, services	Reason for using it	to produce:
Google search and Google scholar	To find suitable references based on given keywords	Repository of suitable literature

2.5 Data collection and analysis (collection instrument design, survey administration, transcribing, translating, qualitative analysis – thematic coding, quantitative, statistical guidance, data visualisation, etc.)

Tools, technologies, services	Reason for using it	to produce:

Microsoft Excel	To capture data and derive themes manually	Analysed data, theme development and interpretations by the researcher Participant conversations in response to pre-designed social support probes
WhasAPP	To facilitate the proposed digital intervention on WhatsApp	

2.6 Ethics and data protection (integrity, data protection laws, discipline expectations)

Tools, technologies, services	Reason for using it	to produce:
None		

2.7 Other, e.g., code generation or computational assistance, etc.)

Tools, technologies, services	Reason for using it	to produce:
None used		

3. Integrity and institutional compliance

- I confirm that for most of my studies, I have not used any AI-generation tools. I confirm that for the past year, I have used AI-generation tools minimally, with my own developed prompts based on the CPUT PROMPT guidelines (<https://www.cput.ac.za/student-ai-practice-guide> (CPUT, 2025) and evaluated any generated content according to the EDIT guidelines.
- I confirm that any content generated or influenced by AI tools has been critically reviewed, edited, and integrated by me, based on the principles of critical and ethical engagement (reliability, honesty, respect, and accountability). The final submitted work reflects my own academic judgement and intellectual contribution.
- I understand that presenting material created by an external system – such as a generative AI tool – as my own, without acknowledgement or review, may be considered a breach of academic integrity and could constitute plagiarism.
- I take full responsibility for the originality, accuracy, and academic integrity of this work.

4. Acknowledgement of institutional policy

I understand that:

- The CPUT Plagiarism Policy prohibits presenting the work of others as one's own without proper attribution, including the use of external assistance.
- The Student Rules and Regulations require that all students conduct themselves with academic honesty and uphold the values of integrity and accountability in all assessments.
- Failure to uphold these standards may lead to formal disciplinary procedures.

5. Supervisor awareness

[Y] I have discussed the use of generative AI with my supervisor(s).

[Y] My supervisor has not raised any objection to its appropriate and disclosed use in this research.

6. Record of use

I confirm that I have retained documentary evidence of my use of AI tools (e.g., prompts, generated outputs, draft versions) and will make this available if required by the university.

Student signature and date:

Chantal Settley

Chantal Settley

06 October 2025

Supervisor signature and date:

[Signature]

Prof Retha de la Harpe

6 October 2025

APPENDIX 7: PEER-LED ONLINE SOCIAL SUPPORT INTERVENTION GUIDELINES

1. Planning and Preparation

Goals:

- **Overall Goal:** Understand the specific context to enhance support.
- **Peer Support Goal:** Explore existing social support options for participants.
- **Design Goal:** Decide on a suitable online platform and determine the relevant social media affordances that align with the peer support goal.

Step-by-Step Activities:

1. Conduct a Needs Analysis:

- **Identify Contextual Influences:** Gather background information on participants' socio-economic, cultural, and environmental factors.
- **Use Surveys or Focus Groups:** Engage with participants to understand their stressors, needs, and available resources.
- **Analyze Results:** Identify key themes such as common stressors, existing support structures, and gaps in support.

2. Decide on a Recruitment Strategy:

- **Define Target Audience:** Determine the specific group needing social support (e.g., youth, parents, caregivers).
- **Select Recruitment Methods:** Choose methods such as social media outreach, community bulletin boards, or direct referrals.
- **Develop Recruitment Materials:** Create engaging content like flyers, social media posts, or videos explaining the purpose of the study.

3. Design Platform Selection:

- **Identify Suitable Platforms:** Compare potential platforms based on accessibility, security, user-friendliness, and social media affordances.
- **Test Platform Features:** Test features like group chat, video calls, and forums to assess their alignment with your goals.
- **Finalize Platform Choice:** Decide on the most suitable platform for hosting peer support activities.

Expected Outcomes:

- A clear understanding of the specific stressors, resources, and social support needs of participants.

- A selected platform that best meets the needs of the participants.
- A comprehensive list of suitable social media affordances.
- A well-defined recruitment strategy.

2. Participant Engagement for the Pilot Study

Goals:

- **Overall Goal:** Gain insight into participants' interaction and response preferences.
- **Peer Support Goal:** Encourage participation in discussions, guided by a suitable theoretical lens.
- **Design Goal:** Refine activities based on pilot study insights and the characteristics of the intervention.

Step-by-Step Activities:

1. Facilitate Engagements:

- **Design Probing Activities:** Develop discussion prompts and activities that encourage sharing and participation, based on principles of online social support.
- **Use Online Tools:** Leverage chat rooms, polls, or interactive posts to engage participants.

2. Monitor Engagement Levels:

- **Track Participation:** Observe engagement frequency and quality at both individual and group levels.
- **Reflect on Participation:** Note areas where participants seem hesitant or enthusiastic, adjusting strategies accordingly.

3. Consent and Confidentiality:

- **Explain Voluntary Participation:** Ensure participants understand their involvement is voluntary and can be withdrawn at any time.
- **Clarify Confidentiality Measures:** Outline how data will be handled to protect participant privacy.

Expected Outcomes:

- Identification of social support subthemes that resonate with participants.
- Documentation of participation experiences, including engagement level and group dynamics.
- Insights into conversation content and areas requiring moderator intervention.
- Understanding of the online support space's dynamics and participant needs.

3. Conduct Co-Design Workshops

Goals:

- **Overall Goal:** Design an online, peer-led social support group intervention.
- **Peer Support Goal:** Encourage participation and monitor conversations, ensuring alignment with social support principles.
- **Design Goal:** Utilize social media platform features to facilitate and guide participation.

Step-by-Step Activities:

1. Facilitate Online Discussions:

- **Brainstorm Features:** Guide discussions on potential support features, such as emotional check-ins, resource sharing, or dedicated support forums.
- **Use Interactive Tools:** Employ tools like whiteboards or shared documents for collaborative brainstorming.

2. Document Feedback:

- **Record Insights:** Capture all feedback, comments, and suggestions during the discussions.
- **Ensure Inclusivity:** Foster an environment where all voices are heard, particularly those that may be quieter or hesitant.

3. Monitor and Reflect:

- **Assess Participation:** Continuously monitor the group to understand how the interaction evolves and whether changes are needed.

Expected Outcomes:

- Detailed documentation of design ideas and feedback.
- A collaborative environment where participant input shapes the intervention design.

4. Develop and Prototype the Resource

Step-by-Step Activities:

1. Develop Prototypes:

- **Create Wireframes:** Design initial wireframes for key features like mood tracking, resource directories, and discussion boards.
- **Use Design Software:** Tools like Figma, Sketch, or Canva can be used to create visual representations of the platform.

2. Iterate Based on Feedback:

- **Conduct Feedback Sessions:** Present prototypes to participants for feedback on usability and relevance.

- **Refine Designs:** Modify wireframes based on feedback to enhance functionality and user experience.

Expected Outcomes:

- Prototypes that visually represent the online support platform.
- Iterative improvements that align the design with user feedback.

5. Test and Refine the Resource

Step-by-Step Activities:

1. Usability Testing:

- **Real-Life Scenarios:** Test the prototype in scenarios participants would typically encounter, assessing ease of use.
- **Collect User Feedback:** Gather insights on what works well and what could be improved.

2. Refine Based on Feedback:

- **Adjust Navigation:** Simplify platform navigation where needed.
- **Enhance Features:** Improve key features based on direct user suggestions, ensuring relevance and usability.

Expected Outcomes:

- Improved resource functionality and navigation.
- A refined platform that meets participant needs.

6. Implement and Evaluate the Final Resource

Step-by-Step Activities:

1. Launch the Platform:

- **Promote Availability:** Announce the platform's launch through the recruitment channels used initially, ensuring the target audience is aware.

2. Monitor Engagement and Collect Feedback:

- **Track User Interaction:** Regularly check engagement metrics such as participation frequency, conversation topics, and user feedback.
- **Conduct Impact Assessments:** Evaluate the effectiveness of the resource in providing support, identifying areas of success and opportunities for further improvement.

3. Continuous Evolution:

- **Iterate Based on Use:** Adapt the platform as necessary, based on ongoing user feedback and engagement data.
- **Maintain Support Relevance:** Ensure that the platform evolves with the needs of its users, incorporating new features or adjustments as required.

Expected Outcomes:

- A successfully launched and utilized peer-led support platform.
- Ongoing user engagement and a process for continuous improvement based on real-world feedback.