

Jóna Margrét Ólafsdóttir

Addiction within families

The impact of substance use
disorder on the family system



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The impact of substance use disorder on the family system

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Abstract

The overall aim of the thesis is to explore how family members of individuals with substance use disorder (SUD) experience its effect on the mental health and psychosocial state of other family members and the family system. The research questions were: *How do the family members of individuals with substance use disorder experience the effects of the substance abuse on their mental health regarding depression, anxiety, and stress? And, how do they express the effect on their family atmosphere especially in relation to intra-family communication and cohesion?*

In this study, both quantitative and qualitative methods were used, and the participants were selected with a purposive approach. Three scales were used in the quantitative part of the study; the Depression Anxiety Stress Scale (DASS) (n=143), the Family Communication Scale (FCS) (n=115) and the Family Satisfaction Scale (FSS) (n=115). The participants were family members of individuals affected by SUD attending a four-week family group therapy session at the Icelandic National Centre for Addiction Treatment (SÁÁ).

In the qualitative part of the study, 16 semi-structured interviews were conducted—one with each of the 16 participants. The participants fit into groups based on the four primary roles within the typical immediate family: four spouses/partners, four parents, four siblings, and four (adult) children. Each group was evenly divided in terms of gender: two males and two females.

The analysis of the questionnaires and interviews indicated that family members with individuals with SUD experienced negative effects on the family system, including reduced family cohesion, fragmented intra-family communication, and degraded adaptability to changing conditions. The results showed that family members living with an individual affected by SUD can experience increased depression, anxiety, and stress compared to members of families that do not include a member affected by SUD. Significant differences were noted in how family members expressed feelings about family experiences, based on role relationships among spouses, parents, (adult) children, and siblings.

Based on the accumulated research, a new model of family dynamics and their response to the strain of SUD is presented, based on the family roles and emotional states of the participants, and is applied to real-world examples. This model includes an emotional range from devotion to hostility in terms of how people feel toward their close relative living with SUD. The research reported here suggests that treating

both the affected family member and the family as a whole can serve as a preventive measure for the family members of the next generation.

Keywords: substance use disorder, family members, family systems, communication and cohesion, depression, anxiety and stress, atmosphere within families with SUD

Útdráttur

Markmið þessarar ritgerðar var að kanna hvernig fjölskyldumeðlimir einstaklinga með vímuefnaröskun upplifa áhrif hennar á andlega, líkamlega og félagsleg heilsu sína og fjölskyldukerfið í heild. Rannsóknarspurningarnar voru: *Hvernig upplifa fjölskyldumeðlimir einstaklinga með vímuefnaröskun áhrif hennar á geðheilsu þeirra í tengslum við þunglyndi, kvíða og streitu? Og hvernig lýsa þeir ábrifuum vímuefnaneyslunnar á andrúmsloft innan fjölskyldunnar varðandi samskipti og samheldni innan hennar?*

Í þessari rannsókn voru notaðar bæði megindlegar og eigindlegar rannsóknaraðferðir og þátttakendur voru valdir með tilgangsrúttaki. Þrjú mælitæki voru notuð í megindlegum hluta rannsóknarinnar: Mælitæki um þunglyndi, kvíða og streitu, *Depression Anxiety Stress Scale* (DASS) (n = 143), samskiptakvarðinn *Family Communication Scale* (FCS) (n = 115) og fjölskylduánægju kvarðinn *Family Satisfaction Scale* (FSS) (n = 115). Þátttakendur í þessum hluta rannsóknarinnar voru fjölskyldumeðlimir einstaklinga með vímuefnaröskun sem voru á fjögurra vikna fjölskyldu námskeiði hjá SÁÁ.

Í eigindlegum hluta rannsóknarinnar voru tekin 16 hálfstöðluð viðtöl við hvern þátttakanda. Þátttakendum í þessum hluta rannsóknarinnar var skipt í eftirfarandi fjóra hópa út frá hlutverkum þeirra í fjölskyldunni: fjórir makar, fjórir foreldrar, fjögur systkini og fjögur (fullorðin) börn. Í hverjum hópi voru tveir karlar og tvær konur. Helstu niðurstöður sýndu að fjölskyldumeðlimir einstaklinga með vímuefnaröskun upplifðu að vímuefnaneyslan hafi haft neikvæð áhrif á fjölskyldukerfið í heild, svo sem minni samheldni innan fjölskyldunnar og skertari samskipti milli fjölskyldumeðlima. Einnig upplifðu þátttakendur að samloðun og aðlögunarhæfni fjölskyldunnar minnkuðu vegna vímuefnaneyslunnar. Niðurstöður sýndu jafnframt að fjölskyldumeðlimir einstaklinga með vímuefnaröskun geta fundið fyrir auknu þunglyndi, kvíða og streitu borið saman við einstaklinga sem ekki eiga aðstandanda með vímuefnaröskun. Marktækur munur var á því hvernig fjölskyldumeðlimir lýstu tilfinningum sínum vegna vímuefnaneyslu innan fjölskyldunnar, byggt á hlutverkasamböndum þeirra í fjölskyldunni þ.e. makar, foreldrar, (fullorðin) börn og systkini.

Byggt á niðurstöðum þessarar rannsóknar er sett fram líkan af fjölskyldusamspili (e. family dynamic) innan fjölskyldunnar og viðbrögðum þeirra við álagi vegna vímuefnaröskunar eins fjölskyldumeðlims. Líkanið byggir á hlutverkum einstaklinga innan fjölskyldunnar og tilfinningalegri líðan þátttakenda. Líkanið sýnir jákvæðar og

neikvæðar tilfinningar allt frá alúð til andúðar fjölskyldumeðlima til aðstandandans sem er með vímuefnaröskun og hvernig jákvæðar tilfinningar geta breyst í neikvæðar tilfinningar eftir því sem vímuefnaröskun fjölskyldumeðlimsins verður alvarlegri. Niðurstöður þessarar rannsóknar benda til þess að ef allir fjölskyldumeðlimir í fjölskyldum þar sem vímuefnaröskun er til staðar fá faglega aðstoð sem og fjölskyldan í heild geti það haft forvarnargildi og aukið lífsgæði fjölskyldumeðlima næstu kynslóða.

Lykilorð: Vímuefnaröskun, fjölskyldumeðlimir, fjölskyldukerfi, samskipti og samheldni, þunglyndi, kvíði og streita, andrúmsloft innan fjölskyldna með vímuefnaröskun

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List of original papers

1. Ólafsdóttir, J., & Orjasniemi, T. (unpublished article). Substance Use Disorder: A proposed dynamic functional model of emotional states, cohesion and communication within families living with SUD based on the experiences of 16 family members living with SUD in Iceland. Under review in *Journal of Family Social Work*.
2. Ólafsdóttir, J., Orjasniemi, T. & Hrafnadóttir, S. (2020). Psychosocial distress, physical illness, and social behaviour of close relatives to people with substance use disorders. *Journal of Social Work Practice in the Addictions*, 20(2). 136-154. <https://doi.org/10.1080/1533256X.2020.1749363>
3. Ólafsdóttir, J., Hrafnadóttir, S., & Orjasniemi, T. (2018). Depression, anxiety, and stress from substance use disorder among family members in Iceland. *Nordic Studies on Alcohol and Drugs*, 35(3), 165-178. <https://doi.org/10.1177/1455072518766129>
4. Hrafnadóttir, H. & Ólafsdóttir, J. (2016) Vímuefnafíkn, samskipti og fjölskylduánægja. (Chemical dependency, family cohesion and communication). *Tímarit félagsráðgjafa*, 1(10). Available at file:///C:/Users/Jona%20Olafsdottir/AppData/Local/Temp/2125-2760-1-PB.pdf

Authors' contribution

Article I: Ólafsdóttir, J., & Orjasniemi, T. (unpublished article). Substance Use Disorder: A proposed dynamic functional model of emotional states, cohesion and communication within families living with SUD based on the experiences of 16 family members living with SUD in Iceland. Under review in *Journal of Family Social Work*.

The first author took the main responsibility for developing the research ideas, analysing the data and writing the first version of the paper. The second author commented on and supplemented the paper. During the process of publishing this article, both authors contributed to the revision of the paper, but the first author took the primary responsibility.

Article II: Ólafsdóttir, J., Orjasniemi, T. & Hrafnadóttir, S. (2020). Psychosocial distress, physical illness, and social behaviour of close relatives to people with substance use disorders. *Journal of Social Work Practice in the Addictions*, 20(2). 136-154. <https://doi.org/10.1080/1533256X.2020.1749363>

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Article III: Ólafsdóttir, J., Hrafnadóttir, S., & Orjasniemi, T. (2018). Depression, anxiety, and stress from substance use disorder among family members in Iceland. *Nordic Studies on Alcohol and Drugs*, 35(3), 165-178. <https://doi.org/10.1177/1455072518766129>

The first author took the main responsibility for developing the research ideas, analysing the data and writing the first version of the paper. The second and third authors commented on and supplemented the paper. During the process of publishing this article, all authors contributed to the revision of the paper, but the first author took the primary responsibility.

Article IV: Hrafnisdóttir, H. & Ólafsdóttir, J. (2016) Vímuefnafíkn, samskipti og fjölskylduánægja. (Chemical dependency, family cohesion and communication). *Tímarit félagsráðgjafa*, 1(10). Available at file:///C:/Users/Jona%20Olafsdottir/AppData/Local/Temp/2125-2760-1-PB.pdf

The second author took the main responsibility for developing the research ideas, analysing the data and writing the first version of the paper. The first author commented on and supplemented the paper. During the process of publishing this article, both authors contributed to the revision of the paper and both authors took the primary responsibility. This article has been translated in English for this thesis.

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1. Introduction

The overall aim of the thesis is to explore how family members of individuals with substance use disorder (SUD) experience its effect on the mental health and psychosocial state of other family members and the family system. The majority of research about SUD focuses on the individual who is suffering from SUD, even though, in the last few decades, it has been recognised by international research that SUD has negative influences on the family system (Itäpuisto, 2001, 2005; Velleman, Templeton, Reuber, Klein & Moesgen, 2008). Despite this fact, hardly any research has been carried out in Iceland about the effects of SUD on the family. Therefore, it was considered important to fill in this research gap through research into how SUD affects the family systems in Iceland. Furthermore, the impact on the subsystems, i.e. spouses, siblings, parents and adult children of SUD within the family system, has not been examined as a whole, which is important knowledge for the field of addiction and the atmosphere within families.

International academic research has shown that the overuse of alcohol and other addictive substances can have psychological, social and financial impacts on the user and the user's entire family (Lander, Howsare & Byrne, 2013; Margasinski, 2014). The psychological impact of substance misuse can affect both parties physically, mentally, and emotionally. The predominant emotions both parties tend to experience are anger, stress, anxiety, despair, shame, distrust, and feelings of isolation (Denning, 2010; Kenneth, Leonard & Eiden, 2007; Pickering & Sanders, 2017). Substance-dependent users can also experience degraded levels of emotional intimacy in family relationships, lack of enjoyment of those relationships, and financial difficulties. Moreover, substance abuse can have a negative effect on family cohesion; marital problems and divorce are common among couples where SUD is prevalent (Denning, 2010; Kenneth et al., 2007; Margasinski, 2014).

Children can be negatively affected when they grow up with parents who display addictive behaviours. Such children are at risk when their parents drink excessive amounts of alcohol or take addictive drugs; in addition to this risk, their parents' alcohol consumption or drug abuse can lead to unemployment, housing problems, and overall poverty. In such circumstances, the likelihood that the children of parents suffering from SUD will witness domestic violence or will be subjected to violence themselves is increased, which can lead to physical, psychological, and social harm. The predominant emotions for children in such situations include anxiety, fear, guilt, anger, low self-esteem, and impaired self-confidence. Their physical care may also be neglected, increasing the risk that they will have accidents and sustain physical

injury and illness (Itäpuisto, 2001, 2005; Johnson & Stone, 2009; Orjasniemi & Kurvinen 2017).

Research into the health of the family unit in Iceland and elsewhere indicates that a healthy family functions as an effective system when it operates in ways that provide a sense of safety, unity, and contentment to its members (Johnson & Stone, 2009; Júlíusdóttir, 2001). Within a healthy family system, each family member is able to compromise, trust, and meet the natural human need for affection, respect, and care. Relationships are characterised by warmth and cohesion; family members consider themselves equally valuable and are conscious of their roles in contributing to each other's needs (Johnson & Stone, 2009; Júlíusdóttir, 2001).

Concerning both SUD and intervening when it cannot be prevented, the family plays a key part in reducing the risk of addictive behaviour and encouraging and promoting protection and resilience (Sveinbjarnardóttir, Svavarsdóttir & Wright, 2013; Velleman, Templeton & Copello, 2009). Studies have shown that cohesion, discipline, and communication within the family can reduce general delinquency and substance abuse. The relational aspects of families, especially regarding which family roles have SUD issues, seem to have a greater influence than the structural aspects of the family. This point is highly relevant in regard to addressing drug-related behaviours (Velleman et al., 2009).

In this study, I decided to use family systems theory (FST) (Bowen, 1978) as the main theoretical background on which to base the findings of this study, as well as structural family theory (SFT) (Minuchin, 1960). This theoretical background fits well because it describes the dynamics within the family systems and how the roles between the subsystems can change within dysfunctional families when one or more family members are affected by SUD. The family change process model (FCPM) (Satir, 1988) and the family disease model will be addressed to further describe the risk of how a stressful family environment can increase the mental and physical illness of all parties as well as increase low levels of satisfaction and communication within the family system as a whole (U.S. Department of Health and Human Services [SAMHSA], 2005). I also discuss the stress-strain-coping-support (SSCS) model, which describes how family members living with SUD experience stressful circumstances, which could lead to strain and dysfunctions in their lives. The model also addresses how it is important for family members to have social support to increase their coping skills for their own health and wellbeing (Orford, Copello, Velleman & Templeton, 2010).

In addition, the primary activity of social work research is to observe the interactions between people and social subsystems such as the family, the workplace, and other groups and classes in the social environment (Thompson, 2005), with the objective of improving these interactions in terms of their positive expression. The basic philosophy of social work is that the individual affects the social environment while, at the same time, the social environment affects the individual, in a similar

manner to how each organism in nature affects its natural environment, and vice versa (Straussner, 2012; Thompson, 2005).

The methodology of social work is based on this definition and philosophy. More specifically, the practice of social work includes family group therapy in order to achieve greater clarity about the social interactions, as well as practical social assistance and support when the individual or group is facing a social or personal crisis. The traumatic effects of such a crisis can be mitigated if social workers can help the individual connect with the family; the same holds true with individual members of organisations (Lander et al., 2013).

1.1 Research questions and position of articles in the thesis

The overall aim of the thesis is to explore how family members of individuals with SUD experience its effects on the mental health and psychosocial state of other family members and the family systems. The research questions derived from this aim are as follows:

1. *How do the family members of individuals with substance use disorder experience the effects of the substance abuse on their mental health regarding depression, anxiety, and stress?*
2. *How do they express the effects on their family atmosphere especially to intra-family communication and cohesion?*

To answer these two questions with the aim of filling in the research gaps stated above, two scientific articles have been published, one further scientific article will be published in spring 2020, and a fourth scientific article is in the journal review process. This thesis summarises the results from these four articles. In each article questions are set with the purpose of ensuring completeness in this thesis and to answer the two main research questions above.

Article I. Vímuefnafíkn, samskipti og fjölskylduánægja. (Chemical dependency, family cohesion and communication).

The cohesion and communication within families was measured with reporting on two scales, namely the Family Communication Scale (FCS) and the Family Satisfaction Scale (FSS), from family members living with one or more individuals affected by SUD. The following two questions are asked in the study: How satisfied are the family members of an individual with SUD with the cohesion and communication within their family? And, second, are differences present in the average reported responses to cohesion and communication within the family regarding which family

member is affected by SUD; a parent, sibling, spouse or child? These questions are important to ask in order to obtain knowledge of how family members grouped by the subsystems within the family, i.e. parents, spouses, siblings and adult children of SUD, reported how satisfied they are with the communication and cohesion between family members. The results were also analysed by gender, age, education and financial income.

Article II. Depression, anxiety, and stress from substance use disorder among family members in Iceland.

Depression, anxiety, and stress were measured by reporting from family members of individuals affected by SUD on the Depression Anxiety Stress Scale (DASS) scale. The following two questions are asked in the study: Are family members of substance abusers more likely to report increased depression, anxiety and stress than the general population in Iceland? And, are there significant differences between family members; e.g. spouses, parents, adult children and siblings in terms of gender, age, education and income? The results were compared to the general population study “Health and well-being of Icelanders” (2009). In order to achieve these aims, a comparison of the datasets provided useful knowledge about how living with SUD can impact the mental state of individuals other than those who are affected by the SUD. In this study family members were grouped by the subsystems within the family, i.e. parents, spouses, siblings and adult children of SUD, as in Article I. The results were also analysed by gender, age, education and financial income.

Article III. Psychosocial distress, physical illness, and social behaviour with close relatives of substance abusers.

To gain a greater understanding of how family members expressed how living with individuals with SUD impacts their mental, behavioural and physical states, selected participants were placed into four groups: parents, spouses, siblings and adult children of SUD. The following question was asked in the study: What are the experiences of family members living with alcohol and drug abuse by one family member on their psychosocial, behavioural, and physical states? Using this method gives more insight into the first two studies, i.e. the figures from the qualitative studies become more meaningful. The participants in this study give the tables and figures in the first two articles a voice by expressing their experience of living with a family member affected by SUD and how it has impacted their overall health and quality of life.

Article IV. Substance use disorder: A model of emotions, cohesion and communication based on the experiences of 16 family members living with SUD.

According to many theories and studies, in families where one or more family member is affected by SUD, it can lead to conflict and strain within the families and emotional difficulties. In order to gain a better understanding of the atmosphere

within families living with SUD, the fourth study asks the following three questions: What are the experiences of family members living with an individual with SUD? In particular, what are their experiences of affection and emotional bonds? And, what are the experiences of each family member regarding cohesion and communication? For study three, using this interwoven approach to the participants and grouping them into four, i.e. parents, spouses, siblings and adult children of SUD, brings the results of the first two studies into sharper focus. In the study the participants expressed their experience of living with family members affected by SUD in their own words, so the atmosphere and the emotional bond became more visible within the family system as a whole.

In summary, the findings of the studies reported here are intended to help social workers and other professionals working in the field of addiction to understand substance-dependent users as family members with specific roles within the family system and to document how these roles affect how family members affected by SUD tend to act and are treated within this system. This thesis provides a general outline of a healthy family unit that can maintain and enhance the dynamics of each role in the family systems and suggests some measures to take when applying the conclusions to improve and enhance the quality of life of families living with SUD.

The thesis is divided into six chapters in the following order:

The **first section** (i.e. this one) describes the background, intention, and construction of the entire thesis. In the **second section**, definitions of families and family structures are examined, along with the theoretical framework of the thesis. The theoretical view in this thesis is as follows: FST and SFT are examined, and the family structural model, the family disease model and the SSCS model will be explored regarding SUD and its impact on the family as a whole. In the **third section**, a literature review is presented, covering how individuals with SUD can affect families and the impact of SUD on other family members, spouses, parents of children with SUD, children and adult children of parents with SUD and siblings of brothers or sisters suffering from SUD. The **fourth section** contains a discussion of the mixed methods, samples, and analyses used in this study, divided into two parts to reflect the two research methods used, i.e. quantitative and qualitative methods. Ethical issues and the limitations of this study are also addressed. In the **fifth section**, the results of the research are presented. Firstly, the results for family satisfaction and communication will be addressed. Secondly, the results of the depression, anxiety and stress section are presented, and, lastly, the atmosphere in families living with SUD will be addressed. In the **sixth section**, these results are combined and contrasted with the theoretical framework and the literature review and discussion, resulting in a call for further research in this field.

2. Theoretical framework

In this section the following theories and models will be addressed: first, FST is the main theoretical background of my study, where the basic idea is that each individual family member is part of a whole system which includes subsystems such as spouses, parents, siblings and children (Evans, Turner & Trotter, 2012; Hooper, 2007). The main idea of SFT, however, is that each family member has a specific role, as spouse, parent, child, or sibling. In some cases, according to the family change process model these roles overlap (such as spouse-parent or child-sibling) and each role comes with certain obligations that convey certain rights (Hårtveit & Jensen, 2004). The family disease model will also be addressed; this model considers how substance abuse by one family member can impact the health and wellbeing of the whole family, and suggests that all family members need some kind of treatment, i.e. for their enabling, denial, or avoidance (SAMHSA, 2005). Lastly, the SSCS will be described. The model provides information on how family members who are living with a close relative with SUD can be living in stressful circumstances and addresses the necessity for family members to have social support to increase their coping skills (Orford et al., 2010).

2.1 Definitions of families, and family structures

The social status of the family has significantly changed over the years, as many scholars have noted. However, it was not until recent decades that attempts were made to define and categorise families according to their roles and structures, i.e. as a clearly defined unit. The family has a social role within society, but scholars have not yet reached a consensus on every definition of the family because of the wide diversity of cultures, and society in general. Experts have pointed out that it is difficult to set out a definitive description of or to permanently pin down a concept that is as vibrant and dynamic as a family system, or to describe the interactions within it. In other words, the family is not a predictable or static phenomenon (Júlíusdóttir, 2001).

The following quote is the chosen definition of the family. Practically any family can fit this definition because it is sufficiently general and flexible, and because it allows for the close bonds, emotions, and interests of individual family members (Júlíusdóttir, 2001).

A family is a group of individuals who share a home in which they share leisure activities, their rest time, emotions, finances, responsibilities, and tasks. Members are usually adults of both sexes or single adults with a child or children. They are committed to each other in mutual loyalty (Júlíusdóttir, 2001, p. 140).

At some point, most families affected by SUD need to seek professional help for various issues. A therapeutic focus on family dynamics was developed in the latter part of the 20th century, including a strong interest in the effects of a parent's SUD on their children. Around 1985, the focus shifted more toward the individual with SUD rather than the family as a whole. Recently, attention has turned more toward family members operating as part of the family system. This approach has proven to be more effective in investigating SUD (Holmila & Kantola, 2003; Itäpuisto, 2001, 2005; Sveinbjarnardóttir et al., 2013).

The term *family* connotes a complex, multifaceted, interactive web of emotional bonds. Family members can take up residence in all corners of the earth yet can still be emotionally connected and can still experience family intimacy (Ryan & Sawin, 2009; SAMHSA, 2005). To understand the ever-fluctuating relations within families, social professionals and researchers need to develop a robust, flexible, comprehensive understanding of the developmental periods of life: childhood, adolescence, and adulthood, within the family unit. During these developmental periods, attitudes change, as do immediate family relationships among spouses, parents, children, and siblings, and the dynamics with friends change as well (Grotevant, 1998; Rivett & Street, 2009; Ryan & Sawin, 2009; Sveinbjarnardóttir, Svavarsdóttir, & Saveman, 2011; Sveinbjarnardóttir et al., 2013). In family group therapy settings, family members who are geographically far from the location of the nuclear family can be very important. It may be necessary, and therapeutically valid, to account for these family members despite their geographic separation (Rivett & Street, 2009; SAMHSA, 2005).

Even now, as the streets are flooded with newly formulated psychotropic drugs, it is alcohol that continues to be the primary substance abuse issue that every country has to address. The scale of a country's alcohol abuse problem can differ in seriousness and consequences, but heavy alcoholism anywhere breeds poverty, unemployment, health problems, and domestic violence. Consequently, it is logical for a social professional to begin working with a client by focusing on the client's alcohol abuse while at the same time treating the client's family as a whole (Goodman, 2013).

In examining how SUD affects families, family systems, and subsystems it is necessary to review the following theories and models, which are chosen and considered appropriate for studying families affected with SUD: FST, SFT and the family disease model.

As the following sections indicate, this focus on roles within the family and how they function when a maladaptive factor such as SUD is present is fundamental

to the research reported in this thesis. Manifesting as an over-consumption of alcohol and other addictive substances, SUD can be a major contributor to domestic violence and divorce. Low-income families who live on or near the poverty line are at the greatest risk of such consequences of SUD. Families mired in unemployment, mental disorders, lack of education, inherited disadvantages, and poor social networks, with only one or no active parents, are equally likely to fall under the influence of addictive substances (Patel, Flisher, Hetrick & McGorry, 2007).

2.2 Family systems theory

The family is an independent social unit that plays a significant role in establishing a society's social norms (Hårtveit & Jensen, 2004). Formal theories derived from empirical research into family dynamics can be useful in organising knowledge about the discipline of family group therapy and its effective practice. Systems theories and social work came together in thinking about families as far back as the mid-1970s. At that time, theoretical frameworks were developed to provide social workers with the knowledge and tools they required to formalise the practice of social work (Sutphin, McDonough & Schrenkel, 2013).

The basic idea of FST is that each individual is part of a whole such that it is the interaction of the parts within the whole—meaning the family members within the family systems—that shapes much of each individual's life. Following this idea, FST was developed to consider the behavioural patterns and systems that occurred among family members rather than focusing on the individual. Following from this idea is the principle that if one aspect of the system changes, then the effects of this change cause readjustments throughout the system (Evans et al., 2012; Hooper, 2007; Thompson, Wojciak & Cooley, 2019; Rothbaum et al., 2002).

Murray Bowen (1978) was one of the pioneers of family psychotherapy, who developed the Bowen family systems theory. He focused on enmeshed relationships between patients with schizophrenia and their mothers. Observation of the relationship patterns of these families was an important contribution to the development of FST (Bowen, 1978; Haefner, 2014; Kerr & Bowen, 1988; Nichols & Schwartz, 2004). Triangular relationships are central to Bowen's theory, in which there is tension between two family members, where one of them will not communicate directly with the other but instead enlist a third family member to help relieve the stress between them. This scenario can create distance between the first two family members and can increase the likelihood of the third family member becoming part of the triangle (Bowlby, 1980; Kerr & Bowen, 1988; Nichols & Schwartz, 2004; Thompson et al., 2019).

The six principles of the Bowen family systems theory are:

- 1) The family systems are built on the nuclear family emotional system, which can lead to the undifferentiated fusion of the emotions of the parents, which leads to: (a) marital conflict, (b) polarisation and alienation in the spousal relationship, or (c) psychological impairment in the child.
- 2) This multigenerational transition process by which coping strategies, themes, and roles pass from generation to generation in a triangular dynamic, as described above.
- 3) There is also a family emotional projection process whereby the parents transfer their anxiety levels and their levels of emotional differentiation to their children, who are then mistakenly identified as the source of the family's dysfunction and the primary clients in need of therapy.
- 4) According to Bowen, sibling birth order is a significant contribution to determine personality characteristics. Furthermore, this circumstance is multi-generational, since a parent who has a certain birth order in their family of origin will tend to identify more closely with the child who is in the same birth order; for example, a first-born parent will tend to identify more closely with their first-born child. This identification causes the rerouting of tension from the parental dyad to the triad formed by the linking of both parents to the identified child.
- 5) This theory provides for emotional cut-off, meaning one family member's emotional withdrawal from the family in an attempt to break emotional ties and regulate unresolved attachment.
- 6) On a broader scale, this theory explains that societal regression originates when society, like the family, is reshaped by opposing forces of differentiation and individualisation (Haefner, 2014).

According to Bowen, his theory is universal and fits all families; however, critics have pointed out that his theory does not include differences between genders and the theory focuses too heavily on male characteristics (Keala, Anderson & Miller, 2004). One criticism of the triangulations is that if a third party is drawn in, the focus shifts to criticising or worrying about the new outsider, which in turn prevents the original complainants from resolving their tension. According to Bowen, triangles tend to repeat themselves across generations, i.e. when one member of a relationship triangle goes away or dies, another individual could be drawn into the same role. This ongoing triangle develops to deal with the anxiety that exists between family members; for example, passing from fathers to sons over the generations (Keala et al., 2004; Nichols & Schwartz, 2004).

2.3 Structural family theory

One of the pioneers of SFT, which is based on organisations and systems within families, was Salvador Minuchin (1960), and it is one of the most widely used methods and approaches in systemic family intervention (Vetere, 2001). The focus of SFT is that the organisation of the family system is healthy and the boundaries and limits between subsystems are normal (Navarre, 1998; Vetere, 2001).

According to SFT, difficulties within the family system are reflected in adolescent behaviour and wellbeing when there is an imbalance within the structure of the family, dysfunctional relationships and boundaries between parents and children and negative communications. Therefore, in family therapy, the approach is to reorganise the role of the family members in the subsystems, for example parents and children (Jiménez, Hidalgo, Baena, León & Lorence, 2019; Navarre, 1998). Minuchin (1960) described a scale of three types of family system. On the first axis of the scale is the *disengaged* family, where boundaries and limits are rigid, which leads to little flow between the subsystems. It can be characterised by low communication, cohesion and relations between the family members and the lack of support between them. Family relations such as those between subsystems can, for example, influence children's self-worth and their capability of forming their own self-identity. Second, on the other axis of the scale, the *enmeshed* family is described, where there are low boundaries and limits between the subsystems, i.e. parents and children. For example, parents and children spend all of their time together, which can lead to the children being very dependent on their parents and having difficulties in developing their own identity and self-image. The children can also have difficulties in attachment in their childhood and adult years. The third and the last type of the family system is the *adaptive* family, which was formulated as being in the middle or between the first two types of family system. It described healthy family systems where boundaries and limits are clear between subsystems and communication and relations within the family system. Boundaries and limits between subsystems such as these can support a better environment for the children to develop their self-worth and self-image and be able to create boundaries and attach people and help them cope with close relationships in their adult years (Minuchin & Fishman, 1981). What characterises such a family is not that it is free from all problems, but rather that it has a good ability to deal with the various problems and situations that arise in the lives of individuals within each family and in the family system itself (Jiménez et al., 2019; Nichols, 2013).

A rich element of SFT is the subsystem that families comprise. The most common subsystems are pair systems and sibling systems. Furthermore, SFT describes how the couple's system is formed by the merging of two individuals who agree to form a family. They need time to adapt to each other and need to learn to meet each other's needs, and this could be either easy or difficult. Repetition creates a pattern

that is either short- or long term. The parental system needs to have boundaries that separate them from their own parents, children, and others who do not belong to the parental system. In addition to having clear boundaries between the parental system and other family subsystems, it must also be clear where the power lies, and parents must ensure that the children experience them as being at the top of the power pyramid (Minuchin & Fishman, 1981). One of the main criticisms of SFT stated that therapy based on SFT focuses only on the family members in the nuclear family and other aspects and factors such as family of origin and social factors are not taken into account (Vetere, 2001).

2.4 The family change process model

Other pioneers in the development of family systems models include Virginia Satir, an American social worker, therapist and author, who is ‘widely regarded as the “Mother of Family Therapy”’. In the 1980s, she developed a structural model of the dynamics of family systems and applied it to other kinds of family organisations (Hårtveit & Jensen, 2004). Her family reconstruction therapy research led to the *Virginia Satir Change Process Model*, which is based on the roles of individuals within the family, implementing concepts similar to those of Bowen’s FST. According to these principles, when people first enter therapy, they are not aware of how much and in what ways the roles within their family have become muddled, sometimes due to a family member’s substance abuse. Some family members may want to retain their roles so as not to disturb the family’s fragile equilibrium (Ahmad-Abadi et al., 2017; Szapocznik et al., 2015). According to Satir’s model, for successful treatment the whole family must be involved in the therapy; it is the family as a unit that needs treatment, not just the substance-dependent user (Gehart, 2014; Satir, 1988).

Critics of Satir’s model maintain that a therapist who uses this approach is working with a system in a state of flux. Within any family, there are family ties, inherited and learned behaviours, and systems of interaction. Such systems can include, for example, social factors such as employment or unemployment of family members that can influence the family but are not accounted for when the therapist is confronted by the problem being presented. Besides this, critics point out that when something goes wrong with the family dynamic, there are not just one or two family members who can be scapegoated; it is easy to shift responsibility for the problem onto others, and away from the person with the substance dependence. An example of this occurs when a teenager is a substance-dependent user, and the parents are blamed for it (Ahmad-Abadi et al., 2017; Hofmann et al., 2012).

Social workers and other therapeutic professionals can use the family systems approach to treat families whose members are struggling with the effects of SUD

within their family circle. Whether it is an adult or an adolescent in the family who is affected with SUD, the family systems perspective maintains that it is essential for the whole family to enter into therapy (Carr, 2008, 2009).

2.5 The family disease model

Therapy based on the family disease model originates from the idea that if one family member is affected with SUD, the whole family are suffering as well. The model is rooted in ideas of abstinence and the twelve-steps facilitation of the Alcoholics Anonymous movements (Usher, McShane & Dwyer, 2015). The philosophy behind the family disease model as it relates to the treatment of SUD is that substance abuse by one family member results in the ill health of the whole family and that all family members need some kind of treatment for their part in the collective disease, which could involve enabling, denial, or avoidance (SAMHSA, 2005). The model stated that the communication between both spouses and parents and children is often characterised by distrust and secrecy. The dominant feelings are negative, such as shame, anger and sorrow. This family environment can lead to dysfunctional family settings and isolation within the family (Usher, McShane & Dwyer, 2015). According to the family disease model, dysfunctional relationships develop between family members and are focused on the control, nurturing, and maintenance of relationships with the individuals with SUD (Rusnáková, 2014). The substance-dependent user is continuously preoccupied with drinking or taking drugs, and family members are constantly preoccupied with the substance-dependent user's destructive and self-destructive behaviour (SAMHSA, 2005). Defence mechanisms, such as denying the seriousness of the situation or shifting responsibility for the situation onto others, become prevalent (SAMHSA, 2005). In the initial stages of treatment, such defence mechanisms are still evident, and it is the therapist's task to become aware of them and to enable the patient to overcome them. The therapist may also need to work with the patient on suppressed emotions, such as anxiety, depression and excitability. The family disease model explains and teaches how to identify changes in the family's behaviour and how individual family members react to the family environment as the disease progresses. SUD is not only reflected in the behaviour and thought patterns of the substance abuser; it also has an impact on the behaviour and wellbeing of the whole family system (Usher, McShane & Dwyer, 2015).

Social workers and other professionals work with individuals with SUD in many ways, and it is common in their work that they treat not only their clients but also their clients' immediate relatives based on their respective roles: parents, children, spouses, and/or siblings (Straussner, 2012).

Researchers who have criticised the family disease model have pointed out that even though the individual with SUD is diagnosed with a 'disease of addiction', the rest of

the family is not diagnosed with a disease. Furthermore, although the family disease model of SUD is suitable for the treatment and counselling of families, it would be more effective to give attention to crises which arise because of the consumption. These crises may entail divorce or other legal proceedings, unemployment, financial loss and domestic violence. Therefore, professionals should first help their clients handle pressing crises instead of beginning by providing counselling based on the disease model (Whittinghill, 2002).

2.6 The stress-strain-coping-support model

The SSCS, initially developed in the field of health psychology in the late decades of the 20th century, was well known among researchers and professionals based on the idea that if a person was living with stressful circumstances, it could harm the person's mental and physical health. The model addresses that people go through different periods in their lifespan, which can be either good or stressful times. Such periods can be during times of war, unemployment, individuals dealing with their own chronic illnesses or living with close relatives with chronic illnesses such as cancer or SUD (Orford et al., 2005).

For decades, a group of UK researchers has been carrying out numerous studies to develop the SSCS model for families living with SUD. The main aim of the model is to reduce the stress and strain which the family members often live with when they have close relative affected by SUD and increase their support and coping skills (Kourgiantakis & Ashcroft, 2018).

According to the philosophy of the SSCS model, people react and respond to a difficult environment and stressful circumstances differently. It also points out that some reactions to dealing with stress can lead harm to the person's mental and/or physical health. The main idea of the SSCS model is that if the individual could not cope with the stressful circumstances satisfactorily, it would lead to more strain in the individual's life which would affect their health and wellbeing. It also establishes that if the individual gains social support it would be more likely for that person to cope with the stress and reduce the strain in their everyday life (Orford et al., 2005, 2010).

In addition, the central idea of the SSCS model is that an individual should have the strength and the capacity to cope with difficult situations in their life and be effective in their problem solving as well as having power and control in their own life, instead of continually feeling the strain and being powerless. The SCSS model has been applied to a wide range of conditions and circumstances, for example, coping with chronic illnesses such as cancer and caring for close relatives with SUD or other mental illnesses (Orford et al., 2005, 2010).

When families seek intervention, for example, because one family member is affected by SUD, it is stated in the family psychoeducation literature that all

interventions for families should include the following three terms; first, information about the addiction and/or mental illness, second, help to develop their coping skills, and third, support from peers and professionals (Kourgiantakis & Ashcroft, 2018). Furthermore, it has been established that it is necessary to provide the whole family therapy if one or more individuals in the family are suffering from SUD. By doing so, it does not only benefit the family members, it would also support the relative's recovery (Kourgiantakis & Ashcroft, 2018; SAMHSA, 2005).

Previous models regarding SUD and families state that the families or some of the family members are dysfunctional because their role within the families can be disturbed. It has also been established that within these families there is often a lack of communication and boundaries are unclear (Orford et al., 2010; SAMHSA, 2005). The SSCS model assumes that living with a close family member affected by SUD can result in stressful life circumstances, which could lead to experiences of strain for family members that can, in turn, lead to mental and/or physical illness and an overall lack of wellbeing. The main element of the SSCS model is to help family members understand how living with a family member affected by SUD can lead to their stress by dealing with difficult situations, which could lead to disfunction and an overload of strain in their lives. According to the model, it is also established that family members need help to increase their coping skills in their family situations. Their needy relative dominates their thoughts and becomes active in their lives, which leads to increased strain. And, lastly, the model addresses the importance of providing the family member with accurate information about SUD and how it could impact other family members as well as the social support on hand through peers and professionals (Orford et al., 2010).

3. Literature review

In this section, the literature review will be discussed. Research has shown that the excessive use of alcohol and other addictive substances can do damage to both the user and the user's domestic partner as well as the entire family (Itäpuisto, 2001, 2005; Johnson & Stone, 2009). The chapter first discusses the effects of SUD on spousal and parental relationships. Secondly, the effects of SUD on children and adult children in families are addressed and thirdly the parents of children with SUD. Lastly, the effects on siblings of people with SUD are discussed. Here, the key focus is to examine how the effects of SUD can be experienced by different family members.

3.1 The effects of substance use disorder on spousal and parental relationships

Studies of the relationships of couples where there is no SUD show that there is a connection between the self-esteem of individual family members and contentment in the family. However, those family members who are dependent on a substance tend to experience less contentment in the family and less family cohesion (Ólafsdóttir, Hrafnadóttir & Orjasniemi, 2018b). They also report lower degrees of self-esteem (Dethie et al., 2011). According to some theories of family structures and processes, families with substance-dependent members can be expected to show less emotional intimacy or cohesion than other families (Hårtveit & Jensen, 2004; Minuchin & Fishman, 1981; Satir, 1988). Studies have also shown that relationships between adult children and their substance-dependent parents are characterised by dictatorial parenting and lack of trust and intimacy (Beesley & Stoltenberg, 2002). Research carried out in Poland in 2014 using the FACES IV self-evaluation scale and the FSS and FCS scales showed similar results. Family cohesion and communication were rated much lower for those families who were living with close relatives suffering from SUD compared to those who were not (Margasinski, 2014; Ólafsdóttir et al., 2018b; Pickering & Sanders, 2017).

SUD is a costly disease for society (SAMSHA, 2005). The effects of the disease not only harm the health and wellbeing of the substance-dependent person and their family, but are also present in the person's immediate social environment (Itäpuisto, 2001, 2005; Meyers, Apodaca, Flicker & Slesnick, 2002). Conflicts can exist in relationships within the family because of the stress that accumulates because of the user's addiction (Orjasniemi & Kurvinen, 2017).

A principal cause of excessive drinking is poor emotional health (Kenneth, Leonard & Eiden, 2007), often manifesting as depression, stress, and anxiety—mental states that adversely affect interpersonal relationships (Dawson, Grant, Chou & Stinson, 2007; Denning, 2010; Ólafsdóttir, Orjasniemi & Hrafnadóttir, 2018a; Pickering & Sanders, 2017).

A study by Rotunda and Doman (2001) demonstrated that someone with a substance-dependent spouse tends to respond to that spouse's alcohol or drug use in ways that have a major influence on that person's consumption. Certain responses can encourage and accelerate the process by which the substance-dependent person seeks help, while other responses can delay or hinder the substance abuser from seeking help. The objective of Rotunda and Doman's study was to investigate whether certain behaviours on the part of the non-abusing spouse may lead to continued drinking (and consumption of other drugs) and prevent or decrease the likelihood that the dependent person sought help for their habit (Rotunda & Doman, 2001).

The study revealed that unwanted support from a spouse could encourage the substance-dependent person to continue their addiction for reasons such as the following concerns:

- 1) The spouse enabled the substance abuser's habit by taking on responsibilities and family duties from the dependent partner, for example, concerning finances and housekeeping.
- 2) The spouse drank and used other drugs as an important part of their relationship with the substance-dependent partner.
- 3) The spouse lied to the extended family and the dependent partner's employer and made excuses on behalf of the substance abuser to conceal their consumption (Rotunda & Doman, 2001).

Most individuals who enable their partner's drinking behaviour have good intentions; nonetheless, this approach can cause problems for their psychological health and wellbeing. It can increase their partner's consumption and prevent them from seeking treatment for their SUD (Crozier & Hillock, 2013). Female partners of males with SUD have received more clinical and research attention and have been labelled as co-dependents or enablers (Rotunda & Doman, 2010).

Those who struggle with SUD find it difficult to carry out parental duties, which can lead to the neglect of children mentally, physically, and socially. According to a study by Kenneth et al. (2007), drinking by one partner, or the effects of their drinking, is a common factor in divorce during the first year in which a married couple shares a residence. If one spouse misused alcohol or other drugs before the relationship began, he or she is likely to become a compulsive substance abuser (i.e. substance-dependent) after the divorce, because the consumption increases as stress and anxiety increase (Kenneth et al., 2007). It is not surprising that relationship

difficulties can often be linked to excessive consumption of alcohol or other substances by one or both parties (Margasinski, 2014).

The consumption of alcohol and other substances by a parent absorbs much of the family's finances, and the partner who is not substance-dependent therefore often finds him-/herself in the role of the primary breadwinner, feeling compelled to take responsibility for the family's financial situation (SAMHSA, 2005). In a study by Kenneth et al. (2007), the hypothesis was put forward that if a man drank excessively, it would become evident in the courtship of his fiancée. During the courtship, his drinking would influence the drinking habits of his future wife and increase her consumption. This scenario could have a major impact on how intimacy and emotional ties develop in the relationship and could greatly add to their future unhappiness. Kenneth et al.'s (2007) findings revealed that the effects of excessive alcohol consumption during courtship were more pronounced in women who had low self-esteem and few friends. Such women also tended to believe that alcohol consumption and illicit drug use in a prospective partner had a positive effect on the relationship. This response from research participants was more common at the start of a relationship and decreased as the relationship wore on and problems arose in their interactions (Kenneth et al., 2007). These findings support Peled and Sacks' (2008) study, which found that women who live with a partner with SUD do not look at themselves as victims in their relationships. Ten women were interviewed, all married to men with SUD whom they had lived with for ten years or longer. The women reported that their spouse consumed large amounts of alcohol and other substances during their courtship. They also reported that living with a partner with SUD was not a choice, but more an inevitable fate that affected both them and their children, and with which they had to contend (Peled & Sacks, 2008).

Research has also shown that a person's SUD takes both a psychological and an economic toll on the individual, as well as on the partner in a domestic partnership. The psychological consequences of SUD can also lead to negative emotions and feelings of illness in both the substance abuser and the partner. As noted previously, the prevailing emotions can be anger, stress, anxiety, hopelessness, shame, and feelings of isolation. Individuals may not even think about their physical health and may start to experiment with variations in their sexual behaviour (Hasin et al., 2007; Margasinski, 2014; Ólafsdóttir et al., 2018a; SAMHSA, 2005). According to Dawson et al. (2007), women who live with a substance-abusing partner are more likely to suffer from anxiety, stress and physical illness, which impact their overall their quality of life.

Divorces are common in relationships where there is excessive consumption of alcohol or other drugs. Studies have also shown that pathological behaviour patterns in substance-dependent users are the most common reason for divorce (Rognmo, Torvik, Idstad & Tambs, 2013).

Other studies have shown that some relationships possess a certain strength developed from within the family precisely because of the problems that SUD brings, with which the family has had to deal. Individuals utilise these strengths to find their ways to cope with their chaotic domestic life and their difficulties in relating to one another (Dawson et al., 2007; Rotunda & Doman, 2010).

3.2 The effects of substance use disorder on children and adult children in families

Children who grow up living with their parents' substance dependence are at greater risk of being neglected by them (Harter, 2000; Johnson & Stone, 2009; Lander et al., 2013; Solis, Shadur, Burns & Hussong, 2012). Research has shown that inadequate parenting and neglect in a child's upbringing may lead to violent behaviours outside the home (Fallon, Trocme, MacLaurin, Sinha & Black, 2011). In adult years such children are more likely to display risk-taking behaviours, misuse alcohol or other drugs, and exercise mental, physical, or sexual violence toward others (Fallon et al., 2011; Nikulina, Widom & Brzustowicz, 2012).

Researchers and clinical studies professionals point to the negative consequences for children who grow up with parents who misuse alcohol and other drugs. This point applies to both prescription and illegal drugs, as well as alcohol (Fallon et al., 2011; Harter, 2000). Such children live in a crisis with many negative factors, such as parents who are dependent on alcohol or other drugs, unemployed, on the poverty line and beset by housing problems. These conditions increase the likelihood that children will witness violence or become victims of violence. This background affects them mentally, physically, and socially (Campbell, 2002; Johnson & Stone, 2009). In such situations, children may experience anxiety, fear, guilt, anger, and low self-esteem. Proper hygiene may be lacking, and there is a greater likelihood of accidents and physical injury (Velleman & Templeton, 2007; Velleman et al., 2008).

Living with a parent's SUD and being subjected to violence can cause great stress to a child (Anderson & Baumberg, 2006; Norström, 2002). The term *stress* is used to describe the negative aspects of living in such circumstances for children. The stress of living with a parent's substance dependence can result in both short-term and long-term harm to the child (Johnson & Stone, 2009; Orford et al., 2005, 2010; Velleman et al., 2008), which can manifest itself in emotional distress in the child, who may also start to misuse alcohol or other drugs as he or she ages and gains access to such substances. In addition, children of substance-dependent parents may have behavioural problems and struggle at school. They may find they cannot tackle these problems, and experience difficulties in relating to their peers (Campbell, 2002; Orford et al., 2005, 2010; Velleman et al., 2008).

The stress that a child feels as a result of a parent's substance dependence may reveal itself in physical and psychological symptoms. The child may complain of feeling ill, with symptoms such as headaches and stomach aches. Psychological symptoms may include indifference, inability to concentrate, and depression (Cleaver, Nicholson, Tarr & Cleaver, 2007; Johnson & Stone, 2009; Velleman & Templeton, 2007; Velleman et al., 2008).

The extent to which these symptoms manifest themselves in a child who lives with substance dependence and its sometimes violent consequences may depend on other factors in the home environment. Protective factors may include older siblings, the extended family, and the alternate structure provided by school. In addition, the child's own inner strength and self-preservation can be a protective factor in surviving an upbringing by parents who are substance dependent (Anderson & Baumberg, 2006; Johnson & Stone, 2009; Norström, 2002; Orjasniemi & Kurvinen, 2017; Velleman & Templeton, 2007; Velleman et al., 2008).

Studies of twins—both human twins and twins of non-human animals—have demonstrated that heredity is a strong influence in substance dependence. If one or both parents are substance-dependent, the likelihood is as high as 60% that their child will misuse alcohol or other drugs later in life (Anzaldúa, Martinez & Martinez, 2011). Environment and upbringing, as well as heredity, have a formative effect on children and adolescents: children gain messages from their parents and their community about what constitutes normal behaviour, attitudes, and values. If a child grows up believing that it is normal to use alcohol or other drugs for pleasure or to relieve stress, then that child will view as normal behaviour what is, by definition, substance dependence. From this perspective, despite its negative effects, substance abuse can be considered to be skilled adaptive behaviour (Wodarski, 2010).

A study by Maynard (1997) showed that people who have grown up with substance dependence in the family display stronger emotional responses and have fewer inner resources and less resilience for coping with difficult circumstances. They gauge stress factors in the environment and deal with them based on emotion, rather than through informed and rational decision-making. Emotional instability was more characteristic in their behaviour, and there was a lack of self-identity or differentiation of self in this population (Maynard, 1997). Research into the relationships of couples has indicated that couples that include at least one partner who was brought up by substance-dependent parents tend to report diminishing satisfaction in their relationship because of minimal emotional differentiation and reduced rational thinking when making decisions about complex and challenging issues (Skowron & Dendy, 2004). This sense of decreased pleasure in the relationship can manifest itself in negative emotions such as anxiety or anger, which can lead the partners to avoid dealing with difficult situations. These tendencies may be associated with communication or intimacy issues in the couple's relationship (Skowron & Dendy, 2004).

3.3 Parents of children with a substance use disorder

Studies have shown that the effects of SUD on a family depend partly on which family member is the substance abuser (Bortolon et al., 2016). An example is parents of teenagers who bear a burden of responsibility for their child's substance abuse, sometimes being in denial about it and at other times blaming themselves and feeling an inescapable obligation to assist the adolescent in overcoming the addiction (Bortolon et al., 2016; Waldron et al., 2006).

Research cited in this thesis indicates that parents and other family members often grieve over their child's or another relative's mental illness. This grief comes from a profound sense of loss, which has been described as complicated and 'non-finite'—always there (Feigelman, Jordan & Gorman, 2011). One outcome of the deinstitutionalisation movement that was intended to benefit those institutionalised because of mental issues has been a huge increase in the responsibility of the family for managing their relative's mental disorder and living conditions. A perhaps unanticipated consequence of this reform movement is the distress experienced by family members as they assume this caregiving role (Anclair & Hiltunen, 2014; Richardson, Cobham, McDermott & Murray, 2011). This role is especially burdensome when one of its challenges involves dealing with the addiction of an immediate family member.

Since the advent of deinstitutionalisation, much of the research concerning families' experiences of dealing with mental disorders has focused on the many burdens, both objective and subjective, imposed on family members by the circumstances of a mentally ill relative. This point is especially true concerning the difficulties and suffering experienced by families who are primary caregivers for adult children affected by serious mental illness (Pejlert, 2001). Stress arising from the demands of parenting under these circumstances can lead to mental and emotional illness for the parents (Anclair & Hiltunen, 2014). Often, a family which has a child diagnosed with a chronic illness or disorder experiences repeated crises, so it is common for the parents to face further difficulties (Anclair & Hiltunen, 2014; Richardson et al., 2011). It can be argued that family relationships are lifelong and that recent changes in how caring is provided have made it easier to maintain contact with close relatives who suffer from such illnesses, including SUD (Pejlert, 2001), and continue to be a source of support for them.

Families are often encumbered with problems associated with the illness of their close relative. These include coping with symptoms of the disorder such as positive and negative symptomatology, mood disturbance, and disruptive and socially inappropriate or potentially harmful behaviours. Families also struggle to meet increasing disruptions to family life such as financial difficulties, strained relationships among family members and friends, employment difficulties, a miserable social life, and a general lack of physical and psychological wellbeing. Families find themselves

having to adjust to the shortcomings of the mental health system while coping with the oppressive social stigma surrounding mental illness (Richardson et al., 2011).

Any complete picture must include the fact that not all caregiving experiences involve being unduly burdened. Caregiving can also provide profound feelings of satisfaction, and the relationship between the supportive family caregiver and the needy but also grateful family member can be a central feature of the experience. Caregiving within families is a process of mutual exchange. The amount of support provided by family members to patients suffering from a serious mental illness is strongly associated with how much appreciation these patients return to parents and siblings (Pejlert, 2001).

The tendency toward SUD has a genetic basis, as has been substantiated by research conducted with both human and non-human twins. If one or both parents abuse alcohol or other addictive substances, their grown offspring are 40-60% more likely to be affected by SUD (Díaz-Anzaldúa, Díaz-Martínez & Díaz-Martínez, 2011). A research study based on clinical data from nearly 20,000 Icelanders treated for addictive behaviours over the past three decades substantiates a strong link between genetic heritage and the risk of addictive substance dependence. Here, the risk of SUD for the sons of substance abusers was shown to be nearly four times greater than for daughters: 78% compared to 22% (Tyrfingsson et al., 2010).

3.4 Brothers and sisters of a family member with a substance use disorder

Healthy sibling relationships increase the children's ability to develop their social skills and form positive emotional attachments (Button & Gealt, 2010; Criss & Shaw, 2005). Conversely, growing up with a brother (or sister) who has acted out at-risk behaviour such as drug abuse, contributes to hostile interactions between siblings, such as verbal abuse and other aggressive behaviours. Children who are not substance abusers themselves can develop lower self-esteem, anxiety, anger, shame, and isolation from their association with a substance-abusing brother or sister (Button & Gealt, 2010; McHale et al., 2012). Determining how SUD correlates to genetic background versus environmental factors would require more research into the question: Does SUD behaviour induce these conditions among family members, or do siblings share a common genetic predisposition that causes one to abuse and others to experience misery from that abuse? (Díaz-Anzaldúa et al., 2011).

Typically, siblings make important contributions to each other's lives, beginning with growing up together, sharing activities and leisure, facing shared challenges from other family members together, and in general developing emotional bonds toward one another that define much of the character of their shared family life. Research has shown that if one sibling develops SUD, causing the attention of other family

members to focus more on that sibling, the non-using siblings can be sidelined and often overlooked (Bowman et al., 2013).

Caring for a family member with severe and persistent mental illness such as SUD places significant demands on caregivers, whether parents or siblings (Amaresha et al., 2015; Chen & Lukens, 2011). Reports from caregivers testify to the personal rewards they gained from the experience but also attest to their anger toward the sibling with the illness. Anger can arise if siblings in the caregiving role empathise with their parents' unhappiness and perceive their sibling's illness as a threat to their parents' wellbeing. The non-using siblings can also feel responsible for their parents' happiness, and the unhappiness their parents feel toward their SUD-affected child can lead to them looking at their sibling as a burden, so that feelings such as rage and anxiety poison the family's situation (Chen & Lukens, 2011).

By now, many professional providers of therapeutic services have developed an understanding of the importance of family-inclusive services and therapy in meeting the needs of young people with mental illnesses such as SUD. The downside of this understanding is a tendency to overlook the physical and emotional needs of the siblings who are not ill and who may themselves be devoting substantial energy to caregiving (Chen & Lukens, 2011; Sin, Moone, Harris, Scully & Wellman, 2012). Research has shown that siblings are greatly affected by the onset of SUD or other mental illnesses in their brother or sister, and that adolescent illness has a significant negative impact on the siblings' quality of life, increasing the onset of mental health issues (Bowman et al., 2013).

Involvement of a caregiving sibling can be a protective factor that affects sibling relationships and is relevant to understanding the sibling experience. It is not surprising that siblings of individuals with SUD can benefit greatly from easily accessible services and support themselves. Such services begin with sharing information and feelings about their family situation and often include peer support to meet these needs (Amaresha et al., 2015; Sin et al., 2011).

When a family experiences difficulties or illness affecting one family member, a new pattern of interactions can arise within the family. This adaptation tends to be experienced by family members as a problem (Blease, Lilienfeld & Kelley, 2016; Evans et al., 2012; Rivett & Street, 2009). Bowman et al. (2013) have highlighted the importance of including all siblings in family interventions, family group therapy, and support activities, both during the early stages of the substance-dependent sibling's mental illness and later on as the condition worsens.

4. Methods and samples

This section of the thesis is divided into two parts in order to reflect the quantitative and qualitative research methods used. Combining these two methods has enabled me, as a researcher, to compare more precisely (quantitative) and delve more deeply (qualitative) into the subject at hand. An overview of studies, research questions, sampling, research methods, and gender is given in the table below.

Table 1. Overview of articles, research questions, sampling, research methods, and gender.

Article	Name of the article	Research questions	Method	Data Points			Journal
				n	Male	Female	
I	Vímuefnafíkn, samskipti og fjölskylduánægja. (Chemical dependency, family cohesion and communication)	How satisfied are family members of individuals with SUD with the cohesion and communication within their family? Are differences present in the average reported responses to cohesion and communication within the family regarding which family member is affected by SUD; a parent, sibling, spouse or child?	Quantitative	*115	27	87	Published in 2016 <i>Tímarit félagsráðgjafa</i> , 1(10). 12-18.
II	Depression, Anxiety, and Stress from Substance Use Disorder Among Family Members in Iceland.	Are family members of substance abusers more likely to report increased depression, anxiety and stress than the general population in Iceland? And are there significant differences between family members; e.g. spouses, parents, adult children and siblings in terms of gender, age, education and income?	Quantitative	143	32	111	First published online in May 2018 in the <i>Journal of Nordic Studies on Alcohol and Drugs</i> , 35(3). 165-178.
III	Psychosocial distress, physical illness, and social behaviour of close relatives of substance abusers.	What are the experiences of family members living with alcohol and drug abuse by one family member on their psychosocial, behavioural, and physical states?	Qualitative	16	8	8	First published online in April 2020 in the <i>Journal of Social Work Practice in the Addictions</i> , 20(2). 136-154
IV	Substance Use Disorder: A proposed dynamic functional model of emotional states, cohesion and	What are the experiences of family members living with an individual with SUD? In particular, what are their experiences of affection and emotional bonds? And	Qualitative	16	8	8	Under review in the <i>Journal of Family Social Work</i> .

* One participant did not record gender.

The first two stages of this study rely on the primary approach, i.e. quantitative research methods, while the last stage applies qualitative research methods to the quantitative data. Overall, the thesis was developed in three stages, drawing on the research carried out in the four studies listed above.

4.1 Mixed methods

In the literature, quantitative and qualitative methods have often been considered opposites. It was widely considered that each belonged to different scientific paradigms, where qualitative studies belonged to phenomenology, while quantitative studies were positivist in their nature (Taylor, Bogdan & DeVault, 2015).

Optimally, all research studies draw upon one or more theoretical frameworks from the social, behavioural, or biological sciences to inform the stages of the research. Mixed-methods research is both a methodology and a method, involving the collection and analysis of mixed qualitative and quantitative research combined into a single study or a series of studies (Creswell & Plano Clark, 2018). Mixed-methods studies provide opportunities for the integration of a variety of theoretical perspectives such as ecological theories, complexity theory, stress theory, systems theory, and critical theories. Researchers who hold different philosophical positions (e.g. regarding critical theory) may find mixed-methods research to be challenging because of the tensions created by these potentially incompatible positions. Mixed-methods research can provide a way to transform these tensions into new knowledge through a dialectical process of discovery because of its pragmatic preference for employing ‘what works’ and because of diverse approaches, giving primacy to the importance of the research problem and question, valuing both objective and subjective knowledge (Creswell & Plano Clark, 2018; Creswell, Shope, Plano Clark & Green, 2006).

Critics of this approach to inquiry argue that it largely serves the quantitative community, relegating qualitative research to a secondary status and that it strays too far from the interpretive foundation of qualitative research (Creswell & Plano Clark, 2018; Creswell et al., 2006). One decision to make was whether this study’s quantitative research should precede or follow the qualitative evaluation (Padgett, 2017). In the present case, two out of the three research stages are quantitative, which supports the argument of these critics; on the other hand, the fact that the qualitative stage is the last one enables it to make use of the quantitative findings, in effect subordinating them to a qualitative perspective. However, the most important task was to choose the research methods that best fit the research questions. I avoided choosing one approach over the other and instead used different methods concerning the same object of study. By using both quantitative and qualitative methods, it was possible to add breadth and depth to the analysis. By combining

quantitative and qualitative methods, I could focus on the strengths of both methods. The two quantitative studies were separated from the qualitative study but linked together. The main aim of the quantitative surveys was to obtain an overview of whether family members of families living with SUD reported increased depression, anxiety and stress compared to the general population in Iceland. Furthermore, they were intended to provide insight into how family members of individuals living with SUD reported the cohesion and communication within the family system. In the qualitative interviews, the main aim was to understand the experience of family members living with an individual with SUD and give them a voice (Bogdan & Biklen, 1998) in explaining how and whether their experience had affected their psychosocial, behavioural, and physical states.

4.2 Quantitative methods

In the first stage of the quantitative part of this study, two instruments were used: the Family Communication Scale (FCS) and the Family Satisfaction Scale (FSS). The FCS is intended to measure healthy relations within families, while the FSS measures participants' experience of satisfaction within the family. Respondents indicate their answers using a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Higher scores on these two scales indicate higher levels of happiness in the family and better relations between family members (Lavee & Olson, 1991; Olson, 1986; Olson & Gorall, 2006).

On the FCS, participants can score between 10 and 50; their rating is reached by adding together the scores from the ten questions on the scale. The participating families are then divided into five groups according to their ratings. The lowest group has a rating between 10 and 29 (inclusive), indicating strong concern about the quality of their family relations. The next group has a rating between 30 and 35, indicating some concern about the quality of their family relations. The group rated between 36 and 39 is generally satisfied with their family relations but has some concerns. The group with a rating between 40 and 43 is generally satisfied with their family relations and has few concerns. The highest rating is between 44 and 50; this group experiences very positive family relations (Lavee & Olson, 1991; Olson, 1986; Olson & Gorall, 2006).

The FSS uses a rating system similar to the FCS system. Those who score between 10 and 29 are classified as being very dissatisfied with their family life and having pronounced negative feelings and deep concerns about their family. The next score bracket is from 30 to 35, and those who score in this bracket are rather dissatisfied and have some concerns about their family. The middle score is 36 to 39; this group is reasonably satisfied with family relations and enjoys their family life to some extent. Those with a rating of 40 to 44 are mostly satisfied with their family, and

those with the highest rating, 45 to 50, are very satisfied with their family in most respects (Lavee & Olson, 1991; Olson, 1986; Olson & Gorall, 2006).

The alpha coefficients, which evaluate the internal stability of FCS and FSS, are based on responses from 2,465 family members in research carried out in the United States during the 1980s to develop the baseline measures (Lavee & Olson, 1991; Olson, 1986; Olson & Gorall, 2006). Reliability and validity coefficients of the measuring device examine the expected results of the FCS and FSS as part of the Family Adaptability and Cohesion Evaluation Scales (FACES) IV, which is the newest edition of the scale that measures cohesion, adaptability, and communication skills in families. These three elements are also the three main elements in the systems upon which FACES IV is based (Olson, 2011).

The psychometric properties of the Icelandic translation of FACES IV have been examined by two psychologists who were at the time undergraduate students at the University of Iceland. The aim was to examine how its elements are constructed, to check for reliability, and compare it to the American version.

The FCS and FSS were used to measure relationships within the family and how satisfied the participants were with their family. The participants were 335 parents with children in grades 8, 9, and 10 in schools in Reykjavik and the neighbouring boroughs. The average score for this sample was 42.92 for the FCS and 43.51 for the FSS, and the alpha coefficient was 0.86, which corresponds with the US version of the questionnaire, where it was 0.92 (Guðbrandsdóttir & Guðmundsdóttir, 2011, Unpublished BA thesis).

In the second stage of the quantitative method, the Depression Anxiety Stress Scale (DASS) was used. Originally designed for research projects examining two factors: depression and anxiety (Crawford & Henry, 2003), the scale was developed as a self-assessment survey. However, in the pre-analysis of the instrument the researchers found that participants responded with an emotion more like annoyance or irritation, which was not connected to depression and anxiety. Therefore, more questions were added in the scale aimed at measuring stress as a third factor (Ingimarsson, 2010).

The DASS is a questionnaire or survey developed by Lovibond and Lovibond (1995) in Australia. The DASS scale has a total of 42 statements. The first 14 statements measure depression; the next 14 measure anxiety; and the final 14 measure stress. Survey participants answered every question on a four-point Likert scale, in which 0 = not at all appropriate; 1 = appropriate sometimes; 2 = considerably appropriate, and 3 = mostly appropriate. The participants' responses concern their emotional health for the last two weeks before they participate in the survey. The highest possible score for each of the three parts is 42 per subscale (14 statements times 3 points each). The lower the score, the less likely it is that the individual experiences depression, anxiety or stress.

The DASS was translated into Icelandic in 2007 by psychologist Pétur Tyrfingsson and its experimental characteristics were researched by Ingimarsson (2010).

Ingimarsson's study was based on the responses of 373 students at the University of Iceland who were given the DASS instrument and other self-assessment surveys at the same time for comparison.

Table 2. *Normative scoring for the DASS survey (Icelandic edition).*

	<i>Depression</i>	<i>Anxiety</i>	<i>Stress</i>
Normal	0-7	0-6	0-12
Mild	8-11	7-8	13-16
Average	12-21	9-14	17-21
Serious	22-26	15-18	22-25
Very serious	27-42	19-42	26-42

(Ingimarsson, 2010)

The Icelandic edition of the DASS was in accordance with other foreign DASS research. The reliability of the subscales was according to Cronbach's alpha: depression $\alpha = 0.92$; anxiety $\alpha = 0.85$; and stress $\alpha = 0.9$ (Ingimarsson, 2010).

4.2.1 Data collection, sample and statistical analysis

In this thesis, quantitative research methods were used to assess the influence that a person's substance dependency has on other members of the family. Purposive sampling was used to choose people to complete a questionnaire administered to clients in family group therapy at the Icelandic National Centre for Addiction Treatment (SÁÁ) from September 2014 to May 2015, and from August 2015 to May 2016. This family group therapy is built on the Minnesota model, the twelve-steps programme and the family disease theory, i.e. the whole family is affected if one or more family members are affected by SUD (SAMHSA, 2005) (see Appendix 1). No questionnaires were administered between the two periods (during the summer of 2015) as a result of how the family group therapy sessions had to be scheduled, although an additional six participants completed their questionnaires at the beginning of June; these were counted with the questionnaires completed during the second period.

All participants received the questionnaire at the first day of their four-week family group treatment, and the response rate was a very gratifying 100%.

Between October 2014 and May 2015, a total of 115 participants completed the FCS and FSS questionnaires (Article I). And between August 2015 and April 2016, 143 participants completed the DASS questionnaire (Article II). Using the DASS

questionnaire made it possible to compare the results with the general study of ‘Health and Well-Being of Icelanders’ (2009) (Table 2 above shows how the data are evaluated in the study). The average age of the participants was 47 years (SD=13.9), with the oldest participant being 81 and the youngest 19 (three participants did not record their age). The participants were divided into the following age groups to simplify the statistical analysis: 35 years old and younger, 36 to 45 years old, 46 to 55 years old and 56 years and older (see Table 3). Nearly half the participants had earned university degrees, 43% for the FCS and FSS and 41% for the DASS. In a paper from the Organization for Economic Co-operation and Development (OECD) concerning education, it was noted that, in 2015, 26% of Icelanders aged 25-64 had primary education, 36% had upper secondary, and 38% had university degrees (OECD, 2016). Most of the participants had a total monthly income of between 250,000 and 500,000 ISK. According to Statistics Iceland, in 2016, the average income for Icelanders was 667,000 ISK per month (Statistics Iceland, n.d.), equivalent to around USD 5,500 (see Articles I and II).

Table 3. *Age, education and income per month of participants by questionnaire.*

		<i>FCS and FSS</i>		<i>DASS</i>	
Age	35 and younger	19	18%	42	29%
	36-45 years old	15	14%	21	15%
	46-55 years old	35	34%	39	27%
	56 years and older	34	32%	41	29%
	Did not answer	3	2%	0	0%
	Total	115	100%	143	100%
Education	Primary	31	27%	45	32%
	Upper secondary	33	29%	39	27%
	University	50	43%	59	41%
	Did not answer	1	1%	0	0%
	Total	115	100%	143	100%
Income	Less than 250k	30	26%	41	29%
	250-500k	50	43%	53	37%
	500-750k	34	30%	37	26%
	750k or higher	0	0%	12	8%
	Did not answer	1	1%	0	0%
	Total	115	100%	143	100%

The reasons for participation in the family group treatment were similar between the FCS and FSS scales and also for the DASS scale: most participants (42% and 39%) were parents of a child/adolescent affected by SUD. The second-largest group was made up of participants who had a partner affected by SUD (30% and 33%), the third-largest group was composed of participants who had a parent affected by SUD (20% and 21%), and the fourth group was made up of participants who had a sibling affected by SUD (8% and 7%).

The idea of the study and its importance were presented to all participants before the questionnaires were administered. By administering the questionnaire at the beginning of treatment, participants could respond before the therapy could improve their sense of wellbeing or otherwise alter their outlook. Every questionnaire included information about what was being investigated and what was required of the participants. The procedure was designed to respect privacy concerns and make it practically impossible to trace back which person completed which particular questionnaire from information such as gender, age, and how the SUD affected them.

All statistical processing was conducted with the assistance of a master's degree candidate in the field of statistics at the University of Iceland. The widely used statistical program known as SPSS (Statistical Package for Social Science), version 24, and descriptive statistics were used to identify all of the variables in the project, including background variables such as gender, age, monthly income, and relationship status. For this purpose, the respondents were assigned to groups correlating with the four roles of the immediate family members: parent, partner, sibling, or (adult) child. Group members shared the fact that each person had a close relative with SUD.

The DASS scale was used in the general population study 'Health and Well-being of Icelanders' (HCI, 2009) (Guðlaugsson & Jónsson, 2012). Descriptive statistics were used to designate sample characteristics and participants' DASS scores individually, then in comparison with the 'Health and Well-being of Icelanders' dataset (HCI, 2009).

Statistical means were compared using an independent T-test and one-way ANOVA (Analysis of Variance) test. Bonferroni correction was used to identify differences, if any. The significance level for all statistical tests was set at $p < .05$.

4.3 Qualitative methods

The qualitative part of the study was carried out in the spring and summer of 2016, beginning when the results of the quantitative component became available. This third stage of the study used qualitative research methods with a phenomenological approach (Articles III and IV).

When using the phenomenological approach, the initial interview is usually comprehensive and can take up to an hour (Padgett, 2017). The phenomenological interview is designed to ensure that each source has the opportunity to express opinions on specific topics relevant to the study that seem important to him/her and also to ensure that the researcher has understood his/her meaning. (Bogdan & Biklen, 1998; Kvale, 1996; Padgett, 2017; Schwandt, 2001; Strauss & Corbin, 1998; Taylor et al., 2015).

Semi-structured or qualitative interviews are characterised by open and semi-structured questions, flexibility during the interview, and respect for the inviting dynamic regarding the survey participant, meaning that sources are invited to express themselves openly about their own perceptions and experiences. The researcher maintains control using semi-structured questions. In practice, this approach means that sources can express themselves at length about the points they find significant, while the researcher gathers information via the semi-structured questionnaire, seeking to avoid hindering or discouraging any of the sources from expressing themselves (Cresswell, 1998; Kvale, 1996; Schwandt, 2001; Taylor et al., 2015).

4.3.1 Interviews, sampling and analysis of the data

Participants in the qualitative part of the study were purposively chosen using a snowballing method, in which participants recruited others as additional participants in the study (Neuman, 2014; Padgett, 2017). These participants were chosen separately from family group therapy clients at SÁÁ and were not in any kind of family therapy at the time of the interview.

Purposive sampling was used to identify 16 individuals who had experience with SUD in their family. The objective was to organise four groups with four members each, based on immediate family roles:

- four in the parent group, each of whom had attempted to parent a SUD-affected (usually adolescent) child;
- four in the partner/spouse group, each of whom had lived for years with a SUD-affected partner, husband, or wife;
- four in the sibling group, each of whom had grown up with an affected brother or sister; and
- four in the child group, each of whom had grown up with an affected mother or father. Adult children of substance abusers were selected from a group of families separate from the participants who took part in the quantitative part of the study.
- Each group had two male and two female members.

A total of 16 semi-structured interviews were conducted—one for each of the four members of the four role-based groups. Interviews took place in the participants' homes or the researcher's office, and the usual duration of each interview was

around an hour. All interviews were digitally recorded, transcribed, and analysed with systematic text condensation, which is a cross-case method for thematic analysis (Malterud, 2012). Once the interviews were transcribed, they were coded to make it practically impossible for anyone to trace any interview responses back to any particular participant. The transcription was especially accurate since it was accomplished by a master's degree candidate in the Faculty of Social Work at the University of Iceland whose own research examined the experiences of individuals who have a sibling with SUD, making her especially well-qualified to follow the recordings and perform the transcription. After the transcriptions, the written text came to approximately 350 pages.

The interviews were open-ended, semi-structured (Kvale, 1996; Taylor et al., 2015), and based on an interview guide, i.e. a list of specific points developed from the results of the quantitative part of the study. In extensive research projects, such as this one, an interview guide is typically developed to ensure that every source (interviewee) has the opportunity to comment on certain topics relevant to the purposes of the study (Taylor et al., 2015). Accordingly, the guide developed for this research project was used in all 16 semi-structured interviews.

The interviews focused on the participants' experiences of living with a close family member affected with SUD and the impact that this relative's SUD had on their everyday lives, including their mental, emotional, physical, and social experiences. Moreover, participants were asked about their experiences of seeking help to meet their service needs, and if such assistance was offered or provided. With these 16 interviewees, which reflects such a homogenous group and their experiences of living with an SUD-affected relative, it is not possible to state that it reflects other people's experiences of living with such circumstances.

The interviews were analysed using the phenomenological approach as a tool to identify or categorise concepts that arose from the experiences of each individual interviewed. The phenomenological approach can facilitate the summation of the individual's experiences and orientation concerning the interviewee's experience with SUD in their family (Padgett, 2017). In addition, the phenomenological approach (and qualitative analysis, in general) can be used to disclose previously obscure concepts supporting new theories that may warrant subsequent quantitative or qualitative research (Bogdan & Biklen, 1998; Kvale, 1996; Padgett, 2017; Schwandt, 2001; Strauss & Corbin, 1998; Taylor et al., 2015). Having read the transcription interviews several times, major themes were identified. It was relatively easy to identify key themes because the interviews were semi-structured in nature. First, I analysed the interview in accordance to the relationship of the family member to the participant affected by SUD. Second, I classified the data through the background of every participant, regarding their family structure and life experience, i.e. their marital status, social activity, and psychosocial and physical health. After performing this preliminary work with the interview data, I began to

analyse the data into themes regarding both the dominant positive and negative feelings of the participants towards their relative with SUD, their experience of communication and cohesion within their families, and their satisfaction within their families overall.

In developing the conclusions for this study, the audio-recordings and written notes from the interviews proved to be quite useful, especially in the processing and interpretation of the research data. These conclusions are based on the factual and objective results of the ‘research and discussion’ section (Bogdan & Biklen, 1998; Kvale, 1996; Padgett, 2017; Schwandt, 2001; Strauss & Corbin, 1998; Taylor et al., 2015). In addition, where possible, I kept notes in line with the methodology of qualitative interviews, to help evaluate and interpret the source’s social situation in the widest sense; for example, appearance, facial expressiveness, posture, language, and other significant factors. These notes and cues may also give me, as a researcher, greater insight into what the source may experience during each interview (Schwandt, 2001; Taylor et al., 2015).

4.4 Strengths, limitations and ethical considerations of the research

One strength of the mixed-methods approach used in this study is that it enables the researcher to analyse quantitative results post hoc using qualitative methods—in this case phenomenological expression—to gain a better understanding of significant patterns in the quantitative data related to the experience of an individual (Padgett, 2017). In other words, this approach provides ways to get to know the individual behind the data. Furthermore, this study enjoyed a 100% questionnaire response, which greatly helped me, as a researcher, to clearly define this group and the depression, anxiety, and stress each participant reported, as well as the communication and cohesion they experienced within their families.

There are limits to the tools used in all research. In this study, the small sample size at each of the three stages of the research imposed an important limitation. In the quantitative part, $n=115$ in Stage I and $n=143$ in Stage II. In the qualitative part, Stage III, the sample size was a total of $n=16$ (four members of each of the four role-based groups). These samples and their limited sizes may not accurately reflect the experiences of all individuals who have family members suffering from SUD. However, the accessibility to the group is limited due to ethical considerations and the availability of cooperative individuals and the sample size is thus as large as possible. While a sample size of 300–400 participants would have been ideal to have a clear confidence in the study, bearing in mind the accessibility of participants I consider the sample size to be sufficient. Furthermore, the research was conducted entirely with Icelandic families, who are influenced by Iceland’s unique social and geographic features in ways that may not apply to families in other countries.

Nonetheless, the results of the research can indicate the mental health experienced by this sub-group within society.

Another limitation of the quantitative study is that all participants shared a willingness to participate in family group therapy. (None of the participants was a member of the same immediate family.) This important shared characteristic could skew the results, and there could be an underlying participation bias within such an oddly homogeneous group of which I, as a researcher, was unaware. The answers could be different from those that would be provided by individuals who have not participated in family group therapy, even though they have family members with SUD. Thus, there may be two or more groups of people that have varying tendencies to participate in corrective measures to improve their condition. The non-participating individuals might have a completely different view of the conditions that are being studied. The scope of this study did not allow for a larger variation in participants, but the results were compared with the Icelandic population in general.

One limitation concerns income. Participants were asked about their average income per month but should have also been asked about the household income as a whole per month. Any deduction regarding the influence of income in this study should consider this fact.

A statistical limitation in this study is that, during Stage I of the research, descriptive statistical analyses were performed on only the following five variables: gender, age, level of education, income, and accommodation (living arrangements), and of these two (gender and age) had no effect on the results (for further information, see Article I). However, in Stage II of the study, descriptive statistics were used to designate characteristics of the sample affecting participants' DASS scores. In that part of the study, I, as a researcher, was again able to perform statistical analyses on gender, age, level of education, income, and accommodation. Means were compared using an independent T-test and one-way ANOVA test. Bonferroni correction was used to identify where differences could be found, if any. The significance level for all statistical tests was set at $p < .05$. In this part, there was a limitation in terms of how much impact income has on the participant's depression, anxiety, and stress since the study only asked for the income of the participant, not the household income. Therefore, statistical analyses were only performed in Stage II of this study, but this may not reflect the influence of the family income as a whole (see Article II).

Furthermore, the applicability of the qualitative part of the study to society as a whole may be limited by the fact that I was the only researcher to carry out all of the interviews, analysis, and interpretation of the data, and therefore may have implicit and unintentional biases of various kinds.

Nonetheless, the study does provide insight into the physical and mental health impacts of SUD on family members who live with SUD sufferers, especially since this research gives a voice to these family members, allowing them to describe these impacts through the interview process.

Every effort has been made to approach and treat sources (interviewees/participants) with respect and consideration throughout this study. All research data has been handled and stored in compliance with the relevant laws on privacy and the handling of personal information according to general data protection laws such as the Act on the Protection of Privacy regarding the Processing of Personal Data No 77/2000, and this research has been registered under that Act. The questionnaire was anonymous, and all documents were destroyed after the research was concluded.

Concerning the ethical aspects of this research, none of the interview sources was in therapy for their own SUD, no participant was immediately related to any other, and none of the participants were under the age of 18. Sources were kept informed about all aspects of the study, including why this research was being undertaken and what the objectives were; what was expected of the participants; and how matters of confidentiality and data encryption would be handled. I, as a researcher, and each interviewee, signed and retained consent forms containing written information about the study, its purpose and objectives, and relevant information about the instructors and myself as the researcher.

Interviewees were offered one session with a mental health professional free of charge, if needed, given the possibility that upsetting memories might occur in the interview process. Since all participants were already enrolled in therapy, no additional therapy was offered.

The Icelandic National Bioethics Committee granted permission for this project through Act no. 44/2014 on scientific research in the health sector and Act no. 77/2000 concerning the protection of privacy regarding the processing of personal data (Government of Iceland, n.d.-a-b). The Icelandic National Centre for Addiction Treatment's research committee (SÁÁ) also gave permission for the quantitative part of this research.

5. Results

This research aims to obtain knowledge of how an individual affected with SUD affects the psychosocial and behavioural wellbeing of other members of that individual's family, especially regarding intra-family communication, cohesion, depression, anxiety and stress.

This chapter is divided into three main subsections which indicate the results of this research on how SUD can impact family satisfaction and communication, and how the participants reported their psychological state regarding depression, anxiety and stress. The results for the participants' expression of their feelings and wellbeing will be explained in terms of how both positive and negative emotions can manifest in the atmosphere of the family system as a whole. The first two subsections present the quantitative parts of the research: first, the FCS; second, the FSS; and third, the DASS scale. The third and last subsection describes the qualitative part of the study, the Atmosphere in the family.

As stated above, the first subsection presents the findings of the first part of the research, which used the FCS and FSS (Article I). The objective of this part of the study was to measure the extent to which living with an individual affected by SUD affects other family members, especially in terms of communication and cohesion within the family system. The two research questions were addressed in this part of the study are: How satisfied are family members of individual with SUD with the cohesion and communication within their family? And second, are differences present in the average reported responses to cohesion and communication within the family regarding which family member is affected by SUD, a parent, sibling, spouse or child? (See Table 1, Article I).

The second subsection presents the findings of the second quantitative part of the study, in which the DASS was used to measure the extent to which living with an individual affected by SUD affects the psychosocial state of other family members, especially in terms of their experience of depression, anxiety and stress. The questions that were asked in this part of the research were the following: Are family members of substance abusers more likely to report increased depression, anxiety and stress than the general population in Iceland? And, second, are there significant differences between family members; e.g. spouses, parents, adult children and siblings in terms of gender, age, education and income? (See Table 1, Article II).

In the third and last subsection, the results of the qualitative part of the study will be addressed (see Table 1, Articles III and IV). I conducted 16 semi-structured interviews with relatives of individuals affected by SUD. The objective of this part of

the study was to gain further knowledge of the experience of family members living with a family member affected by SUD and how SUD impacts the atmosphere within the family. Specifically, I aimed to obtain more knowledge of how living with an individual affected by SUD affects the physical, mental, and psychosocial states of other family members, including their communication and social behaviour. Additionally, this part of the study asks: What are the experiences of family members living with alcohol and drug abuse by one family member on their psychosocial, behavioural, and physical states? Second, what are the experiences of family members living with an individual with SUD? In particular, what are their experiences of affection and emotional bonds? And, moreover, what are the experiences of each family member regarding cohesion and communication? (see Articles III and IV).

5.1 Family communication and satisfaction

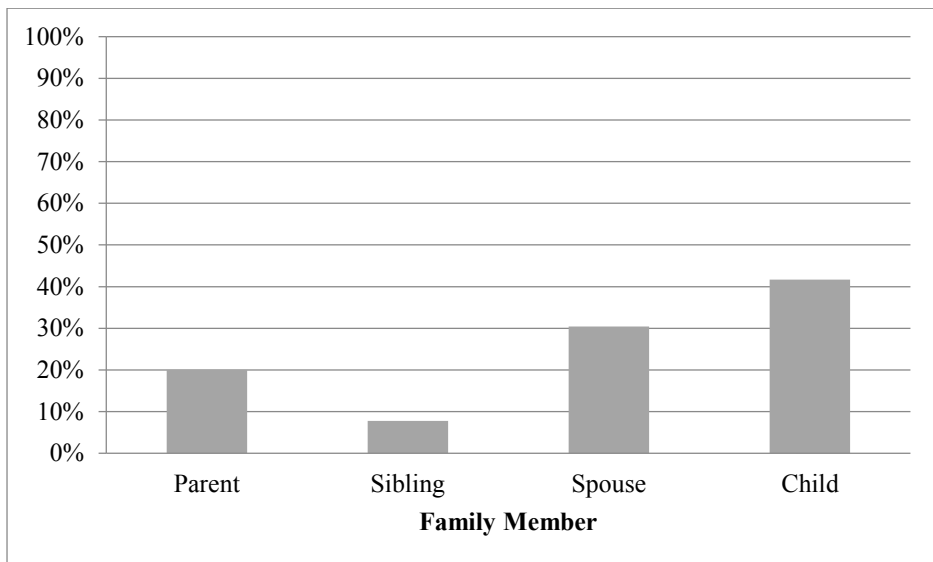
Professionals and researchers have pointed out that healthy family environments are characterised by the close bonds, emotions, and interests of individual family members (Júlíusdóttir, 2001, p. 140). A person living with a relative suffering with SUD can expect to experience breakdowns in communication, decreased intimacy, repressed psychosocial interactions, emotional clashes, and even physical violence (Dawson, et al., 2007; Itäpuisto, 2001, 2005; Lander et al., 2013).

Studies have shown that family members of substance-dependent users live in homes where communication and relationships between family members are not normal, and secrets about their family life abound (Kelley et al., 2007; Orjasniemi & Kurvinen, 2017). The experience of keeping a secret to protect other family members can damage bonding, intimacy, and communication with others in adult life (Earley & Cushway, 2002). Thus, substance dependence can indirectly cause intense guilt and shame for non-abusing family members. In families where one or more family members are affected by SUD, certain family rules can manifest which are invisible but which every family member is aware of; for example, not talking about 'our' substance abuse with people outside the immediate family, and above all not saying anything that might provoke the substance abuser to be overcome by angry outbursts that provide an excuse for further use of alcohol or drugs. This unhealthy pattern can reduce the quality of life of individual family members right through to adulthood, and can prevent normal emotional connection, intimacy, and communication in their interactions with others as they mature (Earley & Cushway, 2002; Kelley et al., 2007).

When communication and cohesion within families were examined in this study, both quantitative and qualitative methods were used (Articles I, III and IV). In the quantitative part, the FCS and the FSS were administered to 115 participants (24.3% men and 75.7% women) at the beginning of a four-week family therapy programme at the Icelandic National Centre for Addiction Treatment (SÁÁ).

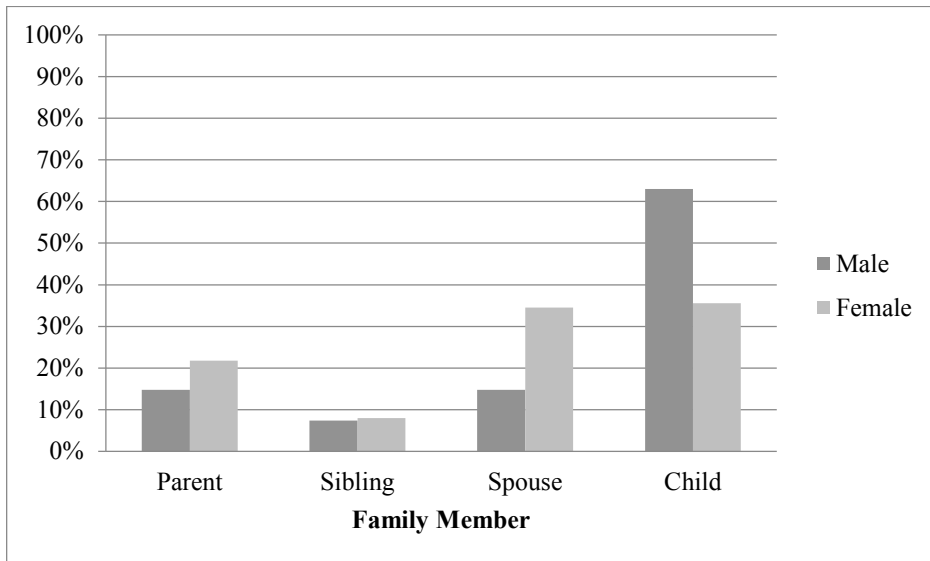
Status of participants in family therapy

Graph 1 (Article I) shows that most of the participants (42%) who attended family group therapy were parents of a child with SUD. The age of the relatives who were affected by SUD was not requested in this research. Around 30% of participants attended family group therapy because of their partner's SUD, 20% because they have a parent with SUD, and 7.5% because they have a sibling affected by SUD.



Graph 1. The total number of participants grouped according to which family member is affected by SUD ($n=115$).

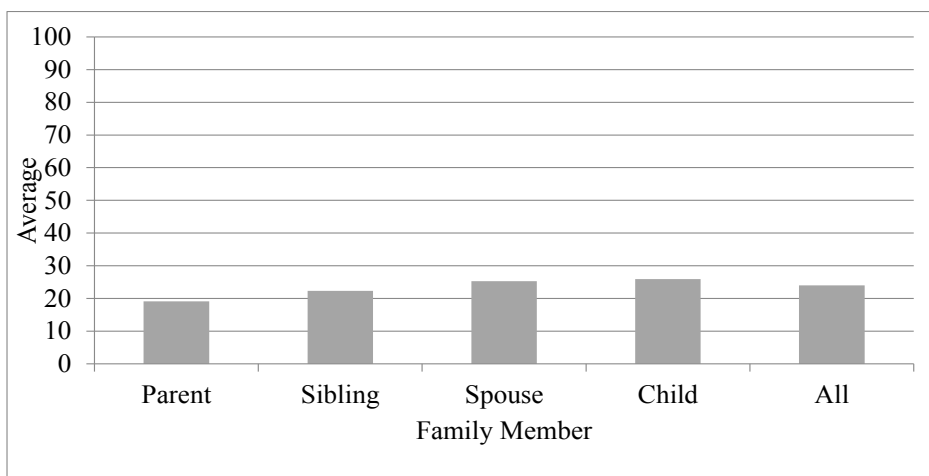
Graph 2 (Article I) shows the percentage of participants by gender; 27 men (23.5%), and 87 women (75.7%), and which relative was affected with SUD. The distribution of the sample is similar for men and women, irrespective of which relative was affected with SUD, but women were more likely than men to attend therapy because of their partner.



Graph 2. *The numbers attending family group therapy grouped according to gender and showing which family member is affected by SUD (n=115).*

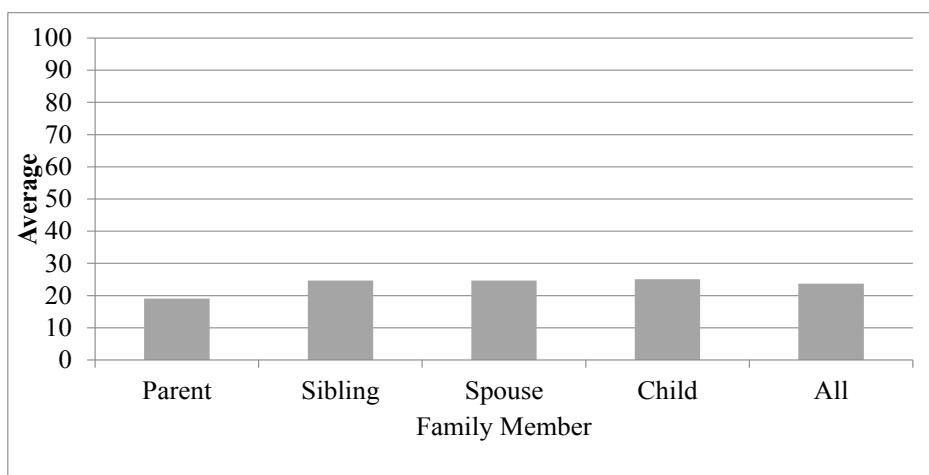
The influence of substance use disorder on family satisfaction/cohesion and communication

When all the groups were added together irrespective of which family member is affected with SUD, it transpired that the participants scored an average of 23.96 for family satisfaction/cohesion (FSS). Graph 3 (Article I) shows the reported responses for family satisfaction/cohesion (FSS) according to which family member had SUD. There is no significant difference in the FSS between those who have a sibling, partner, or child affected with SUD. The average of each group was around 23.96, but there is a difference between them and the group of adult children who attended therapy because of their parent's SUD. This group reported a lower level of family satisfaction/cohesion, on average 19.1.



Graph 3. Average report on FSC grouped according to which family member is affected by SUD ($n=109$).

There was little or no reported difference between the groups regarding family communication/relations, as can be seen in Graph 4 (Article I), where the group average was 23.7. When the family member with SUD was a sibling or partner, the average was 24.7 and 25.1 when the family member was a child. When a parent was affected by SUD, the average is lower, 19.1. This finding is similar to the question above about family cohesion. This finding is comparable to the difference found within the groups regarding family cohesion where participants with a substance-dependent parent scored lowest.



Graph 4. Average report on FSS grouped according to which family member is affected by SUD ($n=109$).

The study investigated whether there was a difference in the average reported responses on the FCS and the FSS in families with a substance-dependent spouse/partner, parent, child, or sibling. Participants scored an average of 23.96 (SD=7.7) on the FSS, which means that, on average, they felt dissatisfaction and discord within the family and were concerned about the health of their family units. Participants scored an average of 23.70 (SD=6.9) on the FCS, indicating that they were very concerned about the quality of communication within their families.

These results are also somewhat lower on both scales (FSS and FCS) than the results of the research of Olson et al. (2011, 1991, and 1986). Furthermore, the results are also somewhat lower than those of an Icelandic research project on psychometric characteristics of the FCS and FSS, which revealed that, in general, participants were satisfied with their families and had overall good relationships (see discussion above) (Guðbrandsdóttir & Guðmundsdóttir, 2011). This difference is not surprising when bearing in mind the fact that, in the current study, all the participants were selected because they were attending family group therapy for relatives with SUD. This result shows that substance dependence in one family member has an influence on other family members and affects how satisfied they are with their family and with communication within the family. These findings support research by Margasinki (2014) and Pickering and Sanders (2017) using the same questionnaires, i.e. the FCS and FSS, to measure communication and cohesion among relatives of individuals with SUD. Family members living with a family member with SUD scored much lower on both scales.

Table 4 (Article I) shows the results of the FSS scale responses. By using a one-way ANOVA test it is possible to see that the mean on the FSS ($F(3.105) = 7.090, p < 0.001$) showed that adult children who attended family group therapy because they had a substance-dependent parent experienced less family satisfaction and cohesion than participants with a substance-dependent partner or child.

Table 4. *Family Satisfaction Scale.*

95% confidence level					
Role of family member with SUD	Mean	St dev	Lower limit	Upper limit	n
<i>Parent</i>	19.10 _a	6.84	15.95	22.25	22
<i>Sibling</i>	22.33 _{a,b}	4.77	18.67	26.00	9
<i>Spouse</i>	25.25 _b	7.18	22.66	27.84	32
<i>Child</i>	25.93 _b	5.93	24.17	27.69	46
<i>All</i>	23.96	8.5	22.64	25.28	109

*Averages with a different letter were evaluated differently with Bonferroni's test ($\alpha = 0.05$).

Table 5 (Article I) shows the results of the FCS scale. By using a one-way ANOVA test it is possible to see that the mean of the FCS ($F(3,105) = 3.168$, $p = 0.027$) showed that adult children who attended family group therapy because they had a substance-dependent parent experienced poorer family communication than participants with a substance-dependent child.

Table 5. *Family Communication Scale.*

95% confidence level					
Role of family member with SUD	Mean	St dev	Lower limit	Upper limit	n
<i>Parent</i>	19.10 _a	7.48	15.60	22.60	20
<i>Sibling</i>	24.67 _{a,b}	5.77	20.23	29.10	9
<i>Spouse</i>	24.72 _{a,b}	8.61	21.61	27.82	34
<i>Child</i>	25.13 _b	6.88	23.09	27.17	102
<i>All</i>	23.70	9.0	22.23	25.16	109

*Averages with a different letter were evaluated differently with Bonferroni's test ($\alpha = 0.05$).

The findings from the interview part of the study support these results (Articles III and IV). All of the participants who had been brought up by a parent suffering from SUD agreed that they had experienced difficulties with communication, cohesion and adaptability in their own family in adult years, as well as in the family in which they were brought up.

All participants stated that they had difficulties with communicating in their own close relationships, because they did not know how they felt, and they did not understand their own feelings. They all reported that they were afraid of being rejected, even in their own close marital relationship. One of the interviewees stated: *'For example, during holidays I don't think I have ever felt the same excitement and the same joy as I have heard other people talk about, only anxiety and stress... even though there is nothing in my life to worry about right now. I can feel how it's impacted my spouse. She is constantly asking me if there is something wrong. And then I get more annoyed and all of a sudden, we start arguing.'*

The participants also reported that they had to start taking on responsibility early in their lives; for example, for their younger siblings, schooling and leisure, which did not fit their maturity or age at the time (Article III). These findings support other studies which found that young children who are brought up by parents with SUD start taking on responsibility at an early age, sometimes living below the poverty line, and are at greater risk of developing negative feelings at a young age (Johnson & Stone, 2009; Velleman & Templeton, 2007; Velleman et al., 2008).

In this study the results show that adult children of parents affected by SUD expressed a lack of communication between family members and experience little cohesion and satisfaction within their family (Articles I). This finding reflects the research of Johnson and Stone (2009), Skowron and Dendy (2004) and Sunday et al. (2011), whose results indicated that adult children of SUD and can experience difficulties in their own family relations in adult years and experienced less cohesion and satisfaction with in their family and poorer communication with their partner and their children.

The results of comparing my sample with research by both Olson et al. (2011, 1991, and 1986) and Guðbrandsdóttir and Guðmundsdóttir (2011), discussed above, are not very surprising, given that my sample was purposefully chosen because the participants were relatives of individuals affected with SUD. The other two studies did not ask if participants were living with an individual with SUD. But overall, having this opportunity to compare my results with these two studies provided a good insight into how the SUD of one or more family members can impact other family members and reduce communication and cohesion within the family system as a whole, as pointed out by Ahmad-Abadi et al. (2017) and Szapocznik et al. (2015).

All of the participants in the qualitative part of the study experienced a lack of communication, cohesion and adaptability within their families, which they

expressed for example in terms of stressful environment, distrust, dishonesty, and negative feelings such as anxiety, anger, guilt and sorrow (Articles I-IV).

These results support what other research has revealed about how living with a substance-dependent user can cause intense depression, anxiety, stress, guilt and shame for non-abusing family members. Difficulties in communication between family members can reduce cohesion and warm relationships and can prevent normal emotional connection, intimacy, and communication in their interactions with others (Earley & Cushway, 2002; Kelley et al., 2007; Orjasniemi & Kurvinen, 2017).

5.2 Depression, anxiety and stress

Studies have shown that excessive alcohol and drug use can increase poor emotional health, often manifesting as depression, stress, and anxiety for both the person who uses and for their close family members. These psychosocial feelings affect interpersonal relationships, communication between family members and cohesion (Kenneth et al., 2007; Margasinski, 2014). A study by Dawson et al. (2007), showed that women in a relationship with a substance-abusing partner reported more depression, anxiety, stress, and physical illness than women who did not live with a partner affected by SUD. Furthermore, according to the World Health Organization (WHO), in general, women develop clinical depression 50% more frequently than men (WHO, n.d.). However, studies have shown that spouses, whether male or female, can develop negative feelings such as depression, anxiety and stress in their relationship with a substance-abusing partner (Kenneth et al., 2007; Margasinski, 2014).

According to research by Johnson and Stone (2009), children who have one or both parents with SUD and are brought up by them are at greater risk for social and emotional conditions such as depression, anxiety, and stress. This situation, combined with a lack of support and early responsibility, could also have consequences in these individuals' adult life, manifesting in poor mental health and lack of communication and cohesion in their own family relationships (Johnson & Stone, 2009).

In healthy sibling relationships, siblings create positive emotional attachments to each other and other people as well (Button & Gealt, 2010). Growing up with a sibling who has shown risk behaviour such as drug abuse can lead the sibling who is not a substance abuser to develop negative feelings towards the sibling who is using. These feelings may manifest as verbal abuse or another aggressive behaviour (Button & Gealt, 2010; McHale, Updegraff et al., 2012).

Studies have shown that parents of teenagers often feel that they are responsible for their teenage child's substance abuse. In the early stages of their teenage child's substance use, they deny the situation. When they understand how serious the

substance abuse of their child is, they often blame themselves and feel anger, stress, sadness, sorrow, anxiety and depression (Bortolon et al., 2016; Waldron et al., 2006).

To gain a greater understanding of how family members of individuals with SUD feel regarding anxiety, depression and stress, in this study a survey was administered to 143 participants on the first day of a four-week group therapy programme for relatives of individuals with SUD. The instrument used for this purpose was the DASS, which is designed to measure those three related mental states. The subscales of the DASS for depression, anxiety, and stress were utilised to examine which family member—parent, child, partner, or sibling—presented which behaviour concerning SUD.

Table 6 (Article II) shows that more than 18% of participants fulfilled the diagnostic criteria for serious or very serious anxiety. The depression numbers tell a similar story, with 18% of participants reaching the same diagnostic threshold. It is particularly concerning that 28% of participants experienced serious or very serious stress. Even worse, 36% or more in all three subscales were measured as having average, serious, or very serious depression, anxiety, and stress. However, it is vital to address that 41% of participants did not report having depression, 53% did not report having anxiety, and 44% of participants did not report suffering from stress. This information could also reflect the participants' level of education and financial income in this study (see further discussion and Tables 12 and 13 below). Studies have shown that higher education and high or middle income can reduce depression, anxiety and stress (Patel et al. 2007; Wolff et al. 2009).

Table 6. *Analysis of participants, according to the (Icelandic) diagnostic criteria.*

	<i>Depression</i>		<i>Anxiety</i>		<i>Stress</i>	
Degree	N	%	N	%	N	%
<i>Normal</i>	58	41	76	53	63	44
<i>Mild</i>	20	14	15	11	21	15
<i>Average</i>	40	28	26	18	18	13
<i>Serious</i>	10	7	7	5	19	13
<i>Very serious</i>	15	10	19	13	22	15
<i>Total</i>	143	100	143	100	143	100

The DASS scale was also used in the general population study 'Health and Well-being of Icelanders' (Guðlaugsson & Jónsson, 2012).

When results from the participants in this study were compared with the findings of 'Health and Well-being of Icelanders, (2009)' (Guðlaugsson & Jónsson, 2012), a difference was found between the groups in all of the subscales: anxiety ($t(3890) = -16.25, p < .001$); depression ($t(3845) = -16.66, p < .001$); and stress ($t(3858) = -22.43, p < .001$). The participants in family group therapy scored much higher on all three scales (Table 9), suggesting that the participants were much worse off mentally or psycho-socially than the participants in the study 'Health and Well-being of Icelanders, (2009)' (Guðlaugsson & Jónsson, 2012), see Article II. These findings are not surprising given that the general-population study 'Health and Well-being of Icelanders, (2009)' (Guðlaugsson & Jónsson, 2012) did not screen participants to see if they were living with a relative affected by SUD while participating in that study, therefore I used a purposive sample. However, these results support the findings of the qualitative part of this study (Article III), where participants were asked about their mental health regarding depression, anxiety and stress. The results show that all participants except for the group of siblings expressed that SUD had negatively affected their mental health by inducing depression, anxiety, and stress-related physical illness. As one of the participants from the sibling group stated:

...Sometimes I do feel depressed, and sometimes I find it very difficult to get things done, especially if it is something very important, for example, something in my work... which could be causing anxiety... You know, a lot of responsibility... the workload, you know. But I cannot link it to a lot of family stress or anxiety... and I certainly don't link it to my brother...

Table 7 (Article II) shows that participants were worse off mentally/psychosocially than those in the follow-up survey HCI (2009).

Table 7. Results of the participants in the research of the DASS scale compared to the survey HCI, 2009.

Degree	<i>Depression</i>		<i>Anxiety</i>		<i>Stress</i>	
	HCI %	Group %	HCI %	Group %	HCI %	Group %
<i>Normal</i>	84	40.6	91.1	53.1	91.8	44.1
<i>Mild</i>	7.7	14	2.9	10.5	4.4	14.7
<i>Average</i>	6	28	3.7	18.2	1.8	12.6
<i>Serious</i>	1.1	7	1	4.9	1.1	13.3
<i>Very serious</i>	1.2	10.5	1.3	13.3	0.9	15.4
<i>Total</i>	100	100	100	100	100	100

When differences between genders were compared in this study, the results were similar between gender according to each category, i.e. depression, anxiety and stress, which is a surprising result considering that the WHO found that women are 50% more likely to develop clinical depression than men (WHO, n.d.). The findings of this study support the results from other research which has addressed substance abuse and its impact on close relatives, showing that it impacts all family members, regardless of gender (Johnson & Stone, 2009; Margasinski, 2014; Orjasniemi & Kurvinen, 2017).

A one-way ANOVA test revealed no significant difference between the genders and their responses to the DASS subscales (see Table 8, Article II).

Table 8. Descriptive statistics for the DASS subscales for the whole sample and according to gender.

DEPRESSION	<i>Number</i>	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lowest value</i>	<i>Highest value</i>	<i>P</i>
Men	32	12.2	12.5	9.3	0	30	0.891
Women	111	11.9	9.0	10.1	0	42	
Total	143	12.0	10.0	9.9	0	42	
ANXIETY	<i>Number</i>	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lowest value</i>	<i>Highest value</i>	<i>P</i>
Men	32	6.8	2.5	8.9	0	34	0.333
Women	111	8.5	6.0	8.8	0	42	
Total	143	8.1	6.0	8.9	0	42	
STRESS	<i>Number</i>	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lowest value</i>	<i>Highest value</i>	<i>P</i>
Men	32	13.8	12.5	9.5	0	36	0.302
Women	111	15.8	15.0	9.4	0	40	
Total	143	15.3	15.0	9.4	0	40	

As can be seen from the comparison of the age groups in this study, the group of 18- to 29-year-olds scored highest in all three categories, i.e. depression, anxiety and stress. This finding supports the fact that, in their early adult years, individuals are starting their own family, bringing up their own children, advancing their education and starting their careers. This situation could lead to more financial difficulties and worries, less spare time, and housing problems, as various studies have found (Johnson & Stone, 2009; Margasinski, 2014).

Article I on family communication and satisfaction showed that those who attended family group therapy because of their parents scored lower on both the FSS and the FCS scales than those who came because of their child. This finding shows that the adult children of parents with SUD felt a greater lack of communication and satisfaction in their family than those who attended because of their child. According to this information, it is possible that the children of parents with SUD were mostly in the age group of 18-29 years old, which would be a plausible reason for why this age group scores slightly higher on all three categories (see Articles I-IV).

Comparison of age groups with a one-way ANOVA test revealed no significant differences regarding how they experienced the subgroups in the DASS: depression ($F(4, 138) = 1.27, p = .281$); anxiety ($F(4, 138) = 2.37, p = .055$); and stress ($F(4, 138) = 2.11, p = .082$) (see Table 9, Article II).

Table 9. Descriptive statistics for the DASS subscales according to age group.

DEPRESSION	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lowest value</i>	<i>Highest value</i>	<i>n</i>
18-29 years	15.1	13.0	8.0	2	34	24
30-39 years	9.6	6.0	9.1	0	30	27
40-49 years	10.1	9.0	8.6	0	30	25
50-59 years	12.3	12.0	10.1	0	41	39
60-99 years	13.0	9.0	12.4	0	42	28
ANXIETY	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lowest value</i>	<i>Highest value</i>	<i>n</i>
18-29 years	12.5	9.5	7.8	0	33	24
30-39 years	6.3	3.0	6.6	0	24	27
40-49 years	5.9	4.0	7.3	0	34	25
50-59 years	7.5	3.0	9.7	0	40	39
60-99 years	8.9	6.5	10.6	0	42	28
STRESS	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lowest value</i>	<i>Highest value</i>	<i>n</i>
18-29 years	20.0	19.0	10.1	1	36	24
30-39 years	15.4	14.0	7.2	5	28	27
40-49 years	13.3	12.0	8.8	0	36	25
50-59 years	13.6	12.0	9.2	0	31	39
60-99 years	15.5	15.5	10.7	0	40	28

Table 10 (Article II) addresses the extent to which levels of education influenced participants' responses to the DASS. A one-way ANOVA test revealed significant differences among the groups: depression ($F(2, 140) = 5.196, p = .007$); anxiety ($F(2, 140) = 7.348, p = .001$); and stress ($F(2, 140) = 4.647, p = .011$). The level of education amongst the participants was spread somewhat equally, with a significant number having completed university-level education (41%). The Bonferroni test showed that participants with a university degree were less likely to experience depression and anxiety than those whose education was completed at a lower level. Similarly, those with a university degree experienced less stress than those who had only completed primary education. As Patel et al. (2007) and Wolff et al. (2009) have highlighted, there is a link between lack of education and lower income, and the findings in this study support these results. In the qualitative part of this study, participants reported that they regarded their work as a shelter; they expressed their experience that they were good at their work, which could include gaining an education as well as undertaking paid work; this could reveal why 68% participants finished upper secondary and university education (see Article IV). This finding could also explain why participants who had only finished primary school reported more stress than participants who had completed additional education, as higher education can increase opportunities of securing a good job with a higher income.

Table 10. *Impact of a participant's education level on the DASS subscales.*

DEPRESSION	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>N</i>
<i>Primary_a</i>	14.3	13.0	9.1	11.5	17.0	45
<i>Upper secondary_a</i>	14.1	10.0	12.0	10.2	17.9	39
<i>University_b</i>	8.9	6.0	8.1	6.8	11.0	59
<i>Overall</i>	12.0	10.0	9.9	10.4	13.6	143
ANXIETY	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>N</i>
<i>Primary_a</i>	10.2	8.0	8.7	7.6	12.8	45
<i>Upper secondary_a</i>	10.6	7.0	11.3	6.9	14.3	39
<i>University_b</i>	4.9	2.0	5.6	3.4	6.3	59
<i>Overall</i>	8.1	6.0	8.8	6.7	9.6	143
STRESS	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>N</i>
<i>Primary_a</i>	18.2	17.0	9.3	15.4	21.0	45
<i>Upper secondary_{a,b}</i>	16.0	16.0	10.5	12.6	19.4	39
<i>University_b</i>	12.7	11.0	8.0	10.6	14.8	59
<i>Overall</i>	15.3	15.0	9.4	13.8	16.9	143

This research also examined whether an individual's income (Table 11, Article II) affected the DASS subscales. A one-way ANOVA test revealed that: depression ($F(3, 139) = 7.751, p < .001$); anxiety ($F(3, 139) = 7.210, p < .001$); and stress ($F(3, 139) = 7.261, p < .001$). When the participants were grouped by income, the largest group (37%) had monthly incomes of between 250,000 and 500,000 ISK (around \$2250 to \$4500); 29% had a monthly income of less than 250,000 ISK; and 34% had a total income of more than 500,000 ISK per month. According to the independent governmental agency Statistics Iceland, the average monthly income of Icelanders is 555,000 ISK (Statistics Iceland, n.d.a). Figures for the average income of the 2014 research sample proportionately mirror the income of the participants in this research. The Bonferroni test showed that those who had the lowest total income experienced more depression, anxiety, and stress than those who belonged to the higher-income groups. These results support the studies by Patel et al. (2007) and Wolff et al. (2009), which found that low-income families are at greater risk of developing high levels of stress and anxiety. It also supports the findings of the qualitative part of the study, where all participants except the group of siblings had experienced financial difficulties; for example, spouses had experienced lower household incomes because their abusive partners had a hard time holding down a job. Some of the adult children had lost their savings, and even their jobs, from lending money to their abusive parent, or from leaving work to take care of one (see Article IV). When participants were grouped by employment, 72% were employed full time, 16% part time, 4% unemployed, and 8% disabled. According to research conducted by Statistics Iceland in April 2016, 84% of individuals between the ages of 16 and 74 were participating in the job market, and of them, 5% were unemployed. Based on this research, national employment and unemployment figures also mirror the employment of participants in the current study (Statistics Iceland, n.d.b.).

Table 11. *Impact of an individual's total income on the DASS subscales (Incomes shown in Icelandic króna per month).*

	95% confidence level for the Mean					
DEPRESSION	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>N</i>
100-250k_a	17.5	13.0	10.9	14.0	20.9	41
250-500k_b	11.4	10.0	8.8	8.9	13.8	53
500-750k_b	8.2	5.0	8.4	5.3	11.0	37
750k or higher_b	8.0	5.0	7.2	3.4	12.6	12
Total	12.0	10.0	9.9	10.4	13.6	143
ANXIETY	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>N</i>
100-250k_a	12.9	9.0	10.7	9.6	16.3	41
250-500k_b	7.1	5.0	7.1	5.2	9.1	53
500-750k_b	5.8	2.0	8.0	3.2	8.5	37
750k or higher_b	3.1	2.0	3.4	0.9	5.2	12
Total	8.1	6.0	8.8	6.7	9.6	143
STRESS	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>N</i>
100-250k_a	20.7	22.0	9.1	17.9	23.6	41
250-500k_b	13.6	13.0	8.8	11.2	16.0	53
500-750k_b	12.7	12.0	9.1	9.7	15.7	37
750k or higher_b	12.7	11.5	7.1	8.1	17.2	12
Total	15.3	15.0	9.4	13.8	16.9	143

Means with different letters were measured differently with Bonferroni's Method ($\alpha = 0.05$).

In Table 12 (Article II) the results are presented for the DASS subscales based on which family member is reported to have SUD. The findings show that the groups are nearly equal, with no significant differences measured between them. The one-way ANOVA results were: depression ($F(3, 139) = 0.313, p = .816$); anxiety ($F(3, 139) = 0.906, p = .440$); stress ($F(3, 139) = 1.155, p = .329$).

The results indicate that 36% or more of the respondents in all three subscales had average, serious, or very serious depression, anxiety, and/or stress. This result is higher than in the DASS studies of the general population in Iceland (Guðlaugsson & Jónsson, 2012). However, the analysis indicates that which family member was affected by SUD made little difference to the family's wellbeing (see Articles I and II).

Table 12. Results of the DASS subscales according to SUD-affected family role.

	95% confidence level for the Mean					
DEPRESSION	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>n</i>
<i>Parent</i>	11.6	10.5	9.2	8.7	15.0	30
<i>Partner</i>	12.4	11.0	9.6	9.6	15.2	47
<i>Child</i>	12.4	10.0	10.7	9.5	15.2	56
<i>Sibling</i>	9.3	5.5	9.9	2.2	16.4	10
<i>Total</i>	12.0	10.0	9.9	10.4	13.6	143
ANXIETY	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>n</i>
<i>Parent</i>	8.8	7.0	8.6	5.6	12.0	30
<i>Partner</i>	8.9	8.0	8.4	6.5	11.4	47
<i>Child</i>	7.8	4.0	9.9	5.1	10.4	56
<i>Sibling</i>	4.1	3.0	3.5	1.6	6.6	10
<i>Total</i>	8.1	6.0	8.8	6.7	9.6	143
STRESS	<i>Mean</i>	<i>Median</i>	<i>Standard deviation</i>	<i>Lower bound</i>	<i>Upper bound</i>	<i>n</i>
<i>Parent</i>	14.9	12.0	10.3	11.0	18.7	30
<i>Partner</i>	17.3	16.0	9.5	14.6	20.1	47
<i>Child</i>	14.3	13.5	9.0	11.9	16.7	56
<i>Sibling</i>	13.2	11.0	8.4	7.2	19.2	10
<i>Total</i>	15.3	15.0	9.4	13.8	16.9	143

A comparison of participants' responses in this study with the general population study entitled 'Health and Well-Being of Icelanders' confirms what the previous research indicates, i.e. that close relatives of individuals with SUD are worse off mentally and psychosocially than others. This outcome was evident in the significantly higher scores of this study's participants for every DASS subscale compared to the scores in 'Health and Well-Being of Icelanders' (Guðlaugsson & Jónsson, 2012). The scores also support the findings of earlier research by Lander et al. (2013), Denning (2010), Dawson et al. (2007) and others, which showed that the behaviour of an individual with SUD tends to degrade the mental wellbeing of their family members.

The participants in this research were 143 individuals taking part in a family therapy group run by SÁÁ. The participants' reaction to every subscale in the DASS showed that at least 36% had average, serious, or very serious depression, anxiety, or stress. More precisely, over 18% of the participants fulfilled the diagnostic criteria for serious or very serious anxiety, and the same was true for depression (17.5%) and stress (28.7%).

The difference between the genders concerning depression, anxiety, and stress was insignificant – as mentioned above this was a surprising result because women generally develop clinical depression 50% more frequently than men (WHO, n.d.). The differences between age groups were also insignificant as determined by using one-way analysis of variance (one-way ANOVA) (Article II).

Comparing the scoring of DASS subscales regarding educational levels revealed interesting differences between groups. The Bonferroni test shows that the group members with a university degree experienced less depression, anxiety, and stress than those who had completed a lower level of education. Not surprisingly, the same may be said about the total income: the Bonferroni test shows that those with the lowest total income experienced greater depression, anxiety, and stress compared to those who earn higher incomes. This result is similar to the findings of the Icelandic study on SUD, cohesion, and communication in families (Articles I and II).

Differences between groups were insignificant when the data were analysed based on who in the family was affected with SUD; the indications were that the differences were insignificant among the groups. This is an interesting finding considering the fact that other research has shown that individuals who were brought up by parents with SUD tend to have worse states of mental health compared to those who did not grow up in a situation where one or both parents had SUD (Lander et al., 2013; Solis et al., 2012). These results confirm previous research indicating that an individual's involvement with SUD adversely impacts other family members' states of health, which over time can lead to mental and physical disorders (Lander et al., 2013; Denning, 2010; Dawson et al., 2007).

Likewise, growing up with a parent or another family member who has SUD is a very significant risk factor: in their adult years, individuals who faced this challenge

as growing children are much more likely to develop SUD and depression, as confirmed by research conducted by Johnson and Stone (2009) and Velleman et al. (2008).

The findings in this part of the study also support the results of the survey of communication and cohesion (Article I), where family members living with an individual with SUD reported that they had concerns about communication and cohesion within their families. It is interesting to note that in the qualitative part of the study, all 16 participants agreed that the family member affected by SUD, whether parent, child, sibling, or spouse, had a significant negative impact on their family members' lives. All but two of the participants had experience of feelings of anxiety and depression that they related to their family member affected with SUD. When the participants were asked about stress in their daily life, eight participants expressed high levels of stress related to their relative affected with SUD. All four members in the group of siblings, one in the group of parents and one in the group of adult children, did not blame their substance-abusing family member for their feelings of stress (see Articles III and IV).

5.3 Atmosphere in the family

Research has shown that the overuse of alcohol and other addictive substances can have both psychological and financial impacts on the family (Kenneth et al., 2007; Lander et al., 2013; Margasinski, 2014). The findings of the quantitative parts of this study show that the psychological impact of substance misuse can affect family members of individuals suffering from SUD psychosocially, physically and emotionally (see Articles I and II). The predominant emotions experienced by spouses, parents, siblings and adult children of individuals with SUD are anger, stress, anxiety, despair, shame, distrust, and feelings of isolation (Kenneth et al., 2007; Lander et al., 2013). Family members of substance-dependent users can also experience degraded levels of emotional intimacy across all family relationships, lack of enjoyment and financial difficulties. Moreover, substance abuse can hurt family cohesion and communication within the family system overall, as pointed out by Usher et al. (2015). In marital relationships divorce is a common consequence of a spouse's substance abuse, which can lead to a lack of communication and cohesion between partners and increase the partner's lack of ability to adapt (Dawson et al., 2007; Margasinski, 2014).

Children who grow up with one or both substance-abusing parents are at risk of being negatively affected: in addition to this risk, their parental alcohol or drug abuse frequently leads to unemployment, housing problems, and overall poverty. Children in such circumstances can be witness to domestic violence or can be subjected to violence themselves, which can lead to physical, psychological, and

social harm (Johnson & Stone, 2009). Predominant emotions for children and adult children who were brought up by parents affected with SUD include anxiety, fear, guilt, anger, low self-esteem, and impaired self-confidence (Orjasniemi & Kurvinen, 2017; Velleman & Templeton, 2007; Velleman et al., 2008). Parents of drug-abusing children tend to feel self-blame, guilt and sorrow, as noted by Bortolon et al. (2016) and Waldron et al. (2006). Siblings who grow up with a brother or sister who abuses drugs tend to develop lower self-esteem, anxiety, anger, shame, and isolation (Button & Gealt, 2010; McHale et al., 2012).

To further explore and understand how SUD in one or more family members impacts other family members and the atmosphere within the family as a whole, the qualitative part of this study was conducted.

The qualitative findings indicated that:

- Despite the different backgrounds and experiences of the participants, three themes unite all participants in all four groups.
 1. There was little difference between the reports of the male and female participants.
 2. Among the four groups, there were minor differences between the responses of parents and adult children of immediate family members affected with SUD.
 3. There were differences between the reports of the group of spouses and the group of siblings—perhaps because of their different senses of kinship with the substance abuser.

From the evaluation process of the qualitative methods analysis, six conclusive themes were identified:

- 1) Participants reported that living for years with relatives affected with SUD had affected their health adversely, increasing their depression, anxiety, and stress-induced illness. Some participants came to regard their workplace (including school) as a shelter from the SUD-fuelled storms at home.
- 2) SUD in the family had negatively affected the psychosocial development of the children in the family.
- 3) Participants had experienced physical and mental violence, as well as significant financial loss, related to SUD in their families.
- 4) Participants reported a sense of isolation and a loss of connection with family members, manifested as the deterioration of cohesion and communication within their family.
- 5) Positive feelings such as being ‘concerned’ and ‘caring’ changed over time into negative emotions such as rage, shame, and sorrow, as the course of the addiction continued, and emotional bonds with the substance abuser continued to deteriorate.

- 6) Living with a substance-abusing relative affects the health of the family system, causing a transition from positive to negative emotional states towards the relative with SUD based on family roles.

Depression, anxiety, stress, and stress-related physical illness

All 16 participants in the four groups experienced that the behaviour of the family member affected by SUD—whether parent, child, sibling, or spouse—had a significant negative impact on their family members' lives. They agreed that the substance abuser was adept at manipulating the feelings of immediate family members in ways that diminished the latter's self-esteem. Such behaviour could take a variety of different forms, such as disrupting the wellbeing of others by not respecting personal boundaries, or by inflicting physical and mental violence, or by causing damage or breaking laws in ways that resulted in financial loss. One participant spoke for all: *'This situation has had a terrible effect on everything and everyone.'* Responses from the 16 participants revealed that all but two of them had sought professional help to deal with their feelings of anxiety and depression. Ten of the 16 had taken drugs prescribed by a physician to cope with these feelings, and ten reported that they had experienced high levels of stress in their daily lives related to managing an out-of-control relative with SUD, such as worrying about the location of the abuser and trying to locate or make contact with them. These disruptions in their lives required them to take time off from work, family activities, and other concerns, increasing their stress and their feelings of failing as employees and family members (see Articles III and IV).

These findings support other studies which, for example, have pointed out that family members who are living with a relative affected with SUD are at greater risk of developing psychosocial and psychological illness or being injured physically (Dawson et al., 2007; Hasin et al., 2007).

A finding that surprised me as a researcher was that all four members of the sibling group, one in the parent group, and one in the child group did not report suffering from anxiety or stress. This finding could be explained by the fact that the participants in the sibling group were all older than the sibling who was abusing drugs and the environment in their home in their younger years had been protective and supportive, as Bowman et al. (2013) suggest. None of these six participants blamed their feelings of stress on their substance-abusing family member. We might interpret this finding in terms of Chen and Lukens' (2011) research; i.e., instead of feeling stress, siblings might express anger and rage towards their parents' empathy and suffering. As one of the participants from the sibling group stated:

...Sometimes I do feel depressed, anxiety and stress which I related to my work... I certainly don't link it to my brother, who I really try not to think about and try to avoid as much as I can... If there is something I feel when I think of my brother,

it is certainly rage, mostly because of what he has done to our parents. [I wish he hadn't been born]...

A parent group member expressed the same experience differently:

...I have often felt depressed, but I cannot say that I am anxious. I can tell you that if my daughter is in rehab, which has happened many times, I feel much better because I always get this 'bloody' hope that now things will be better... But as soon as she starts using again, everything collapses once again and then what I feel is sorrow and guilt, not stress... I don't have the energy for stress, I think...

Thirteen of the participants—all except three members of the sibling group—expressed that their bad feelings grew as the SUD worsened. These participants specifically mentioned feelings of anxiety, anger, depression, hopelessness, and shame. One spoke for many:

...When I saw how bad she [the SUD sufferer] felt, I thought, what shall I do now? Should I let this go on, or...? After a while, I just couldn't continue to let it happen... I was so sad then, but as the years went by, my feelings changed from sadness to rage...

Twelve of the 16 participants reported that they were struggling with stress-related physical illness and had sought out help from a physician. Eight were diagnosed with fibromyalgia (a condition characterised by widespread chronic pain), and 12 were also diagnosed with myalgia (a kind of chronic muscle pain) and frequent headaches and sleep difficulties. Two participants from each of three groups (spouses, parents, and children) reported having been diagnosed with stomach ulcers, the pain from which worsened when the relative with SUD over-indulged in addictive substances or when the location of that relative was unknown. These findings support other studies which have pointed out that family members of substance abusers can have a psychosocial illness which can get worse in stressful relationships (Hasin et al., 2007; SAMHSA, 2005). As one of the spouse group members noted:

...I had always been healthy, had always taken care of myself; but after I gave birth to my second child, and after having lived with my husband's increasingly stressful alcohol consumption, and after always trying to control everything in our household to make everything work out, I just collapsed... I went to my physician and was diagnosed with fibromyalgia and stomach ulcers; and the symptoms are always so much worse when my husband is drinking, which is almost every weekend, so physically I'm always feeling terrible...

A participant from the parent group expressed the same issue in this way:

...After my son started his at-risk behaviour and began using drugs, I could not sleep; I was so worried and scared... My wife felt the same, and we talked about going to our physician, which we did... Our physician gave us some sleeping pills, which I didn't take because I don't like pills... He diagnosed me with myalgia—I have chronic headaches all the time. I try not to let my family see how bad I feel by isolating myself to watch television or surf the Internet or something...

These findings support the results from the depression, anxiety and stress quantitative part of this study; all of the participants had experienced depression, anxiety and stress (see Article II).

Psychosocial impact on the children in the family

Participants in the parent, spouse, and child groups agreed that the SUD in their families had influenced their children for the worse. Participants in the group of siblings agreed, saying that their children had witnessed arguments and seen bad feelings expressed toward their relatives with SUD. All of the participants reported that they had sensed anxiety, insecurity, and fear in their own children. These findings support what researchers have pointed out, i.e. that the stress a child can feel and witness as a result of a relative's substance dependence can cause physical and psychological symptoms. The child may complain of feeling ill, for example, with symptoms such as headaches and stomach aches. Psychological symptoms can be an inability to concentrate, anxiety and depression (Cleaver et al., 2007; Johnson & Stone, 2009; Velleman & Templeton, 2007; Velleman et al., 2008). As one of the participants in the group of spouses observed:

...My youngest son is very nervous and has very low self-esteem, I'm not sure if it is because of his father's drinking, but he's often in a panic because of it, and also, he was bullied at school... perhaps he was bullied because of the situation at home...

One participant in the group of adult children said:

... I grew up in dreadful circumstances, and I always know when my mum is using; I get anxious, depressed, and irritated, and my children can detect it, so I know this affects them, and they are beginning to show the same symptoms of anxiety and depression that I have... but I'll try to keep them out of this...

These two statements reflect the consensus of all participants in every group: All suffer mentally and physically from living with a relative with SUD (see Articles III and IV).

Mental and physical violence and financial loss

All of the participants reported having experienced mental violence, and all except the four in the sibling group had also experienced physical violence. All of them said they had suffered mental violence in their communication with and relationship with the relative suffering from SUD. They described how the substance abuser would use hostile silence or angry outbursts toward other family members to manipulate them, screaming at them, insulting them, calling them names, blaming them for their SUD and their miserable situation. These findings supported the results of this study when communication and cohesion were examined (see Article I); the results show that relatives of family members with SUD had concerns about the communication and cohesion within their families. If there is a lack of communication and cohesion in a relationship, individuals can interpret this as a hostile silence. Other researchers

have also pointed out that excessive substance use can lead to physical and verbal domestic violence in marital relationships: children who are brought up by one or both parents affected by SUD; parents of children abusing drugs; and siblings of drug abusers can expect to experience breakdowns in communication, decreased intimacy, repressed psychosocial interactions, emotional clashes, and even physical violence or witnessing violence (Dawson et al., 2007; Itäpuisto, 2001, 2005; Johnson & Stone, 2009; Lander et al., 2013). As one of the parent group members recalled:

...As the consumption of drugs increased, my son became more and more verbally threatening and hostile, but then he attacked me physically and injured my back because I did not have money to give him to buy more drugs. It took a very long and painful time for my back to recover. The worst thing was that his younger sister saw the attack and became very scared, so I tried to calm down and calm her down, even though I wanted to scream and cry...

A wife in the spouse group expressed the same issue as follows:

...I could bear his mental violence, but when it came to physical violence, I could not take any more... I remember once he struck me hard in the face and pulled my hair down to the floor to soak up all of the blood; I just thought, if I don't do anything now I will die; it was as simple as that. The worst thing was that our oldest son, when he was just seven years old, saw it and he was filled with fear... I knew this would only get worse... I could not think of calling my mum or my sister... I could not admit I was a loser... [for having married him].

All the participants except the four in the sibling group said they had experienced a financial loss. For example, parents have had to pay off their SUD-affected children's debts, or the substance abuser has stolen valuable items from family members to sell for drugs, or the substance abuser has destroyed valuable property such as interior walls, laptops, TVs, clothing, and dishes in fits of anger. Spouses tend to have lower household incomes because the behaviour of their substance-abusing partner makes it hard for that partner to hold down a job, and some of the adult children have lost their savings and even their jobs by lending money to their abusive parent, spending money on lawyers and bail money, or leaving work to take care of a relative with SUD. As one of the participants in the spouse group stated:

...When I left my first husband, all I took with me was my little daughter and one plastic bag of my stuff... I owned half of our house, but I only got a little of it when we finally divorced... I didn't mind so much because all I really wanted was just to get rid of him, get him out of my life... Now I am in a relationship with another man who has a drinking problem, but it is not as bad as it was before, so I cannot compare the two...

One participant in the parent group expressed the same issue of financial loss similarly:

... I don't think we have anything valuable left in the house... Our daughter and probably her drug-using friends have taken everything that was worth

something... Now we lock up computers and lock up wallets and anything else worth saving every night before we go to sleep...

One participant in the sibling group agreed:

...I haven't experienced financial loss myself, but I can see how my brother takes money from our parents, steals from them, and it makes me furious... I'm angry, too, when I know that our parents are giving him money, thinking it's for food or other necessities when I know it's really for his next fix...

These findings support the results from other studies. It is not surprising that participants in the group of siblings did not experience their own financial loss because of substance-abusing siblings. However, it was interesting to see how much anger they expressed regarding their parents' financial losses incurred by assisting their siblings with SUD. This result supports the findings of previous studies that sibling relationships can change over time and that siblings who are not substance abusers can themselves develop anxiety, anger and shame about their substance-abusing sibling (Button & Gealt, 2010; McHale et al., 2012).

Other family members, isolation, and the workplace as a shelter

All 16 participants believed that SUD had affected their immediate family and others in their extended family. They felt the effects as a lack of trust in other people, low self-esteem, and isolation. Research has shown that a person's SUD takes a psychological toll on both the individual who is a substance abuser and also on their family members. The psychological consequences of SUD can also lead to negative emotions and feelings of illness in both the substance abuser and the whole family. The prevailing emotions are anger, stress, anxiety, hopelessness, shame, and feelings of isolation (Hasin et al., 2007; Margasinski, 2014). All of the participants in this study talked about how the extended family did not gather together for holidays or birthdays anymore. One of them put it this way:

... I don't want to celebrate with my parents and siblings because I think they are very sick due to this sick sibling of ours... my own family is enough for me...

One of the wives from the spouse group expressed the same idea, while also reflecting the feelings of the parent group and the (adult) child group:

...As soon as [my husband and I] started living together, he started talking very badly about my family; so I drifted away from my people, and that hurt me... He would never come with me to visit them; he was always either angry or drunk, and I did not feel like answering questions about him: Where is he? What is he doing now? And so on...

One participant from the parent group expressed how she regarded her workplace as a shelter from the chaos at home. One after another, individuals from each of the other three groups expressed the same idea:

... I've always been good at studying and in my work. I often feel better at work

than at home... Maybe it is because I have good self-esteem in my work, knowing that I do a good job... and forget everything else, I don't know....

The effects of substance abuse not only hurt the health and wellbeing of the substance-dependent person and their family, but can also show up in the person's immediate social environment such as within their family (Itäpuisto, 2001, 2005; Meyers et al., 2002). Conflicts can exist in relations within the family because of the stress that accumulates because of the user's addiction (Orjasniemi & Kurvinen, 2017). To cope with situations such as conflicts between family members individuals may choose to isolate themselves from their family, e.g. by spending increased time at their workplace and building up their self-esteem by being good at their job (see Articles III and IV).

Positive feelings such as concern and caring have changed to negative feelings such as rage, shame, and sorrow over time.

All 16 participants in the qualitative part of this study (Articles III and IV) agreed that the behaviour of the SUD sufferer had a major adverse impact on emotional bonds within their families. They observed that SUD is associated with manipulative behaviour that enables the abuser to easily manage how other family members feel toward themselves and their family, degrading their self-esteem. The findings that the SUD sufferer had a major adverse impact on emotional bonds within their families support the results of the quantitative part of this study, where family members reported that they have felt depression, anxiety and stress as a result of their relation to the substance abuser. They also described how family members argued among themselves, such as when parents disagreed about how to handle some disruptive situation related to an older child's SUD, or when a substance-abusing parent arranged to put a child in the middle of a dispute. This dynamic describes how the family system and the subsystem within it can change because of the disruptive behaviour of one or more family members. Furthermore, FST was developed to consider the behavioural patterns among family members and the systems among family members rather than solely focusing on the individual (Evans et al., 2012). According to Evans et al. (2012), Hooper (2007), and Rothbaum et al. (2002) following from the idea of the FST is the principle that if one aspect of the system changes, then the effects of that change cause changes throughout the whole system and subsystems.

The participants agreed that their relatives with SUD could manipulate and upset other family members in a variety of ways, such as by not respecting others' boundaries, destroying their property, and committing physical violence, mental abuse, and financial misconduct. Forms of manipulation such as examples from the following quotes from the participants describe the triangular relationships which are central to Bowen's theory. Bowen describes how when there is tension between two family members, and one of them will not communicate directly with the other

but instead enlist a third family member to help relieve the tension between them. This communication gap can create distance between the first two family members, and it is possible that the third family member will be absorbed into the triangle (Bowlby, 1980; Kerr & Bowen, 1988; Nichols & Schwartz, 2004; Thompson et al., 2019). It also supports Minuchin's SFT, which is based on organisations and systems within families and is one of the most widely used methods and approaches in systemic family intervention (Jiménez et al., 2019; Vetere, 2001). Moreover, there is the family systems structural model by Satir (1988), which states that in disturbed families each role needs to be reorganised into the correct subsystem so that the family system can function correctly again in terms of general relationships and communication between family members (Ahmad-Abadi et al., 2017; Szapocznik et al., 2015).

One of the participants in this study from the parent group described his experience as follows:

...It started with small things, which should have been warning signs; more and more red flags everywhere, and we didn't realise what was going on. This situation has had a terrible effect on everything and everyone...

The following statements from one participant in each group demonstrate how the groups expressed the change of heart they had over time as SUD impacted their families and damaged their bonds of affection. (A summary is presented in Figure 1 in the next section.) One of the husbands from the spouse group stated:

...When I met my wife, she was the most beautiful woman I had ever seen. She was funny, always doing something clever, and she was successful at her work. I was in love, she was my best friend, and I trusted her in everything. We used to go out on weekends, but after some time she did more of that than I did. It has been about eight years since she started drinking and using prescription pills every day, and the path has just been downward... I was so worried and tried to help her and support her as well as I could. I thought she was physically very sick; I didn't realise she had become an addict. She has been in a few treatment centres, but it has not been enough for her. When she's at her worst, our children avoid her; we do not trust her anymore, and it's about four years since she quit work. She just stays at home now, inebriated continuously. I'm ashamed of her, and all respect is gone. I do not love her anymore, and I often think of divorce. I feel it is unfair for me to be in the best time of my life, tied to some patient who cannot even try to be responsible for her recovery...

One of the mothers from the parent group expressed:

...At first I tried to be very supportive and really understand what was happening. My son and I made many agreements that he could not keep, and he has gone through many treatments. I blamed myself; maybe I had not been a good mother, maybe if I had been there for him more, always if, if, if... I would have done anything for him to change. When things have been very bad, and at my worst

times, I have thought, 'I wish he were dead, it would be easier.' Of course, I do not mean it. I care about him, but I am so sad, and always when he returns to treatment, this hope arises: 'Maybe now things will change'... but I'm used to it – that nothing changes...

A member of the group for adult children of SUD-affected parents said:

...My mum is a different person today from when I was growing up; she was my role model during my adolescence. I remember I could talk to her about everything, and I trusted her, I loved her. At that time, she was starting to drink every weekend even though my father didn't join her, and soon she started taking pills too: morphine. Today she is using everything that can make her 'high'. I'm constantly worried about her, and sometimes I'm afraid of getting the phone call where somebody tells me that she's dead; she's always threatening to take her own life. I am so sad to think that this beautiful woman has become homeless and a chronic patient for just about the past ten years. I try to help her as well as I can, but now I have my own family. I do not trust her, either...

A participant from the sibling group expressed:

...I was a teenager when my brother was born. I remember how very cute he was and how I helped my mum take care of him in his earliest years. He was always sick, and when he started school, he had a hard time because of his dyslexia. There was always something wrong with him; I cared about him, but I always felt he was boring. By the time he started drinking and abusing other drugs, I had started my own family, and my parents tried to hide the situation from me, and they still do. When I found out about the situation, I tried to help him; I went with him to addiction counselling and so on, but nothing worked. I really hate him, I hate how he treats my parents, and I don't think of him as my brother; I sometimes think, 'I wish he had never been born'; I just think it would be best for everyone, at least for my parents...

During the interviews, participants were asked to express in a few words their dominant feelings toward their relative with SUD. The great differences between the words selected by the participants in different groups are striking for what they reveal about the participants' underlying feelings:

- 1) Spouses and partners of family members with SUD expressed that they felt shame, pity, distrust, lack of respect, and a loss of love toward their partners.
- 2) Parents of children with SUD expressed fear, hopelessness, sadness, and guilt.
- 3) (Adult) children of parents with SUD expressed fear, unhappiness, and lack of trust.
- 4) Siblings of brothers or sisters with SUD expressed distrust, aggression, and rage.

Feelings of family members toward the relative with SUD

Positive and devoted feelings

Parents

Love/caring
Affection
Protection
Trust
Hope

Adult children of SUD

Affection/caring
Respect
Sympathy
Protection
Hope

Siblings

Affection
Protection
Feel sorry for
Trust
Hope

Spouses

Love
Friendship/respect
Trust
Empathy
Hope

Negative and detached feelings

Parents

Powerless
Self-blame/fear
Sorrow/anger
Distrust/feel sorry for
Hopelessness

Adult children of SUD

Rejection
Shame/fear/pity
Powerless/anger/sorrow
Distrust/self-blame
Hopelessness

Siblings

Lack of emotions
Indifference
Rage/blame/pity
Distrust
Hopelessness

Spouses

Loss of affection/powerless/anger
Feel sorry for/pity
Distrust
Shame/sorrow
Disappointment/hopelessness

Figure 1. *Changes in feelings of family members toward relatives with SUD.*

As Figure 1 (Article IV) indicates, the differences among the groups were quite pronounced. SUD behaviour can lead to the isolation of the substance abuser within the family system. Living with a relative affected with SUD directly affects the family system, causing differences between the emotional states and feelings toward that relative among the role-based family subsystems.

When it came to how members of each role-based group expressed their experience, parents of substance-abusing (adolescent) children and (adult) children of substance-abusing parents described more devoted feelings toward the substance abuser, such as caring and hope, while spouses and siblings had more hostile feelings such as hopelessness, rage, and apathy (as shown in Figure 1 above). This difference could be related to how close parents and children can be, from birth onward—two sides of the same coin—and this finding supports other research about loyalty

between children and parents (Itäpuisto, 2001, 2005; Orjasniemi & Kurvinen, 2017; Sang et al., 2014) (see Articles III and IV).

As one participant in the parent group expressed:

...I go to work and come home, and that's it, more or less. My husband talks about our son if there is anything to talk about. There's no joy or bonding in our relationship anymore, but we stand together when it comes to our son. I try to avoid visits and gatherings because I don't want people asking about my son and expressing their sympathy to me like he's a bad person or has already died. And I feel that his siblings and my own parents have already cut him out, or at least given up on him...

One participant in the (adult) children group observed:

...When my own children's birthdays are coming up, I can feel my stress level rising; I know I'm supposed to have a birthday party, celebrate, be happy, and smile, but I really don't want to do that. I don't want to invite my whole family, try to have some good conversation about nothing... with the elephant in the room, which in this case is my mother. I can feel how afraid I am that someone's going to ask me about her, and I could easily start crying because I miss her...

In different ways, all of the participants expressed similar sentiments about a lack of trust in other people and low self-esteem. All regretted that their extended family no longer gathered together for family events such as holidays, birthdays, and so on.

One participant in the sibling group claimed:

...I don't want to celebrate with my parents and siblings because I think they're really sick of this sick sibling of mine... my own family is enough for me...

This thought expresses the experience of others in the sibling group very well, reflecting indifference, antagonism, and anger.

A participant from the group of spouses/partners had this to say about his substance-abusing partner:

...My wife and I used to socialise with other people and our families, but everything has changed. The friends we had in common are gone, my wife doesn't want to go out with me, and honestly, I don't want to go out with her. Our children and their families visit us during the holidays, and that's it. I like hiking, and I've tried to do that regularly in a hiking group. But I can't be away from home for very long because of my wife, so I just take short hikes, a day trip at the most. This life is like a prison, having such a sick person waiting for you back home, so I often feel that I don't want to go home—just keep driving...

Living with a relative with SUD affects the family system, and all the subsystems within it, i.e. spouses, parents, siblings and adult children of the substance abuser. According to both professionals and researchers, families living with one or more relative with SUD often require family therapy to reorganise their role according to their subsystem; for example, children should not be caregivers to their parents

(Carr, 2009; 2008; SAMHSA, 2005). This kind of pattern in a relationship often manifests in families with substance abusers, and, according to the family disease theory, SUD is a disease that makes the whole family sick, and every family member needs treatment psychosocially, physically and mentally (Usher et al., 2015; Straussner, 2012).

Researchers have shown that there is a difference in the emotional states and feelings among the subsystems in the family system overall toward their relative affected with SUD (Itäpuisto, 2001, 2005).

In this part of the study, the differences between the groups' expressed experiences were apparent where: 1) parents and adult children of SUD sufferers described more devoted feelings such as caring and hope, and 2) spouses and siblings had more hostile feelings such as hopelessness, rage, and pity. This difference could be related to the intimate attachment between parents and children, and this finding supports other research about loyalty between children and parents (Itäpuisto, 2001, 2005; Sang et al., 2014). See further in Articles III and IV.

6. Discussion of results and the theoretical framework

The overall aim of the thesis is to explore how family members of individuals with SUD experience its effects on the mental health and psychosocial state of other family members and the family system. The research questions derived from that aim are as follows:

1. *How do the family members of individuals with substance use disorder experience the effects of the substance abuse on their mental health regarding depression, anxiety, and stress?*
2. *How do they express the effects on their family atmosphere especially to intra-family communication and cohesion?*

The results from the quantitative questionnaire were used to measure family adaptability, cohesion (FSS), and communication (FCS). The questionnaire ‘Depression Anxiety Stress Scale’ (DASS) was used to measure these three related negative mental states in order to answer this question and gain knowledge into how the behaviour of an individual with SUD can affect psychosocially close family members regarding communication and cohesion between individuals. The results were compared to the dataset of ‘Health and Well-being of Icelanders’ (HCI, 2009) (Guðlaugsson & Jónsson, 2012), which uses the same scale (DASS) as a de facto control group. Finally, a qualitative method—involving semi structured interviews—was used to elicit participants’ deep feelings about how their lives had been affected by years of family life with close relatives affected with SUD (see Articles I and II).

6.1 The effects of substance abuse on the family: summarising research findings

As indicated above, this research makes extensive use of the FSS and FCS (Article I). Research participants ($n=109$) scored an average of 23.96 ($SD=7.7$) on the FSS, which means that on average they felt dissatisfaction and discord within the family and were concerned about the health of their family units. Participants scored an average of 23.70 ($SD= 6.9$) on the FCS, indicating that family members were very concerned about the quality of communication within their families.

The results of this study are somewhat lower on both scales (FSS and FCS) than the results revealed in the research findings of Olson et al. (2011, 1991, and 1986). There, the FSS score was 37.5 ($SD = 8.5$), which means that family members were

reasonably satisfied and contented and enjoyed some aspects of their family life. Their results on the FCS were slightly lower, on average, 36.2 (SD = 9.0), which means that family members had some concerns about communication within their family. These results reveal that the substance dependence of one family member affects how satisfied all family members are with their family life and with communication within the family. These results validate the research carried out by Margasinski (2014) using the same FSS and FCS questionnaires as this study.

Using a one-way ANOVA test on the findings reveals that the mean on both the FSS and FCS differs depending on which family member was affected by SUD. The results of both scales showed that participants who attended family group therapy because they had a parent with SUD experienced less family cohesion and poorer family communication than those who were a spouse, sibling or child of a substance abuser (see Article I).

The DASS scale was administered to 143 Icelanders taking part in a family group therapy programme run by SÁÁ (see Article II). Their responses to all three subscales of the DASS showed that over a third reported average, serious, or very serious depression, anxiety, or stress. Comparing these responses to the general population study 'Health and Well-Being of Icelanders' (HCI, 2009) (Guðlaugsson & Jónsson, 2012) confirms previous research indicating that close relatives of individuals with SUD are more likely to be worse off mentally/psychosocially than others. The findings of this survey indicate that a large difference can be noted between the groups in all of the subscales: anxiety ($t(3890) = -16.25, p < .001$); depression ($t(3845) = -16.66, p < .001$); and stress ($t(3858) = -22.43, p < .001$). The participants in the family group therapy scored much higher on all three scales (see Table 7 above), suggesting that the participants were much worse off mentally and psychosocially than the participants in the study 'Health and Well-being of Icelanders' (2009). These scores also support the findings of earlier research by Lander et al. (2013), Denning (2010), Dawson et al. (2007), and others that the behaviour of an individual with SUD tends to degrade the mental wellbeing of other family members (see Article II).

The findings show there is no significant differences between the groups; however adult children of parents with SUD reported lower cohesion and communication than the group of parents of children with substance abuser. Research projects by Lander et al. (2013), Solis et al. (2012), and Johnson and Stone (2009) have pointed out that children who have been brought up with one or both parents affected by SUD can experience more negative feelings such as depression and have difficulties to trust other and being in a close relationship in their adult year, compared to children who had not been brought up with such circumstances. It could lead to them experiencing lower cohesion and communication within their families. These results also support previous findings which indicate that living with a relative affected by SUD can impact other family members state and increase the risk of

psychological, social and physical illness over time (Denning, 2010; Dawson et al., 2007; Lander et al., 2013; SAMHSA, 2005).

Comparing the scoring of DASS subscales in regard to educational levels reveals interesting differences between groups. Bonferroni's Method shows that those with a university degree experienced less depression, anxiety, and stress than those who had completed a lower level of education. Not surprisingly, the same may be said about total income: Bonferroni's Method shows that those with the lowest total income experienced greater depression, anxiety, and stress compared to those who earn higher incomes. This is similar to the findings of the Icelandic study on SUD, cohesion, and communication in families (Hrafnisdóttir & Ólafsdóttir, 2016).

In the qualitative stage of the research, 16 participants were interviewed. Despite their diverse backgrounds and experiences, the participants expressed their experience of living with SUD similarly. However, there were some significant differences in the research findings between the sibling group and the others. The siblings, unlike the spouses, parents, and children, did not report having experienced mental anguish, physical violence, and financial loss (see Articles III and IV).

According to Johnson and Stone (2009), healthy family relationships are characterised by a sense of safety and mutual respect among family members, accompanied by intimacy and warmth. However, the family members presented their feelings in largely opposing ways, expressing how living with SUD had indirectly damaged their mental health, inducing persistent states of *depression, anxiety, and stress*. They could directly trace this damage to sharing their lives with a close relative affected with SUD, and to have spent years in the domestic situation resulting from this damage. Participants also described their struggles with *stress-related physical illness* for which they had sought medical attention; this supports the findings in Denning (2010) and Itäpuisto (2001, 2005) relating the presence of SUD in families to stress-related physical illness among family members who were not themselves substance abusers.

Participants in the parent, spouse, and (adult) child groups (but not the sibling group) independently confirmed that *substance abuse by just one family member had negative psychosocial impacts on all the children in the family*, who were forced to witness frequent and frightening arguments and condemnations involving the substance abuser. All of the study participants who were parents reported that they had witnessed anxiety, insecurity, and fear in their children when the substance abuser was a parent, brother, or sister (see Articles III and IV). Dethie et al. (2011), Itäpuisto (2001, 2005), Johnson and Stone (2009), McCarty et al. (2005) and Orjasniemi and Kurvinen (2017), have all pointed out that children growing up in healthy family environments gain the power to set goals, express love, and enjoy good social relations—the opposite of what the adult children expressed in their interviews. Their testimonies support international studies about risk factors indicating that children who grow up with a parent addicted to substances must somehow cope

with living in a very stressful environment. This research also indicates that children in such families are more likely than children in healthy families to overuse alcohol and drugs as they grow up, thus risking SUD.

In the present study, three of the four adult children had struggled with SUD themselves (see Articles III and IV). This result supports research by Díaz-Anzaldúa et al. (2011), Holiman et al. (2008), Johnson and Stone (2009), Tyrfingsson et al. (2010), and Velleman et al. (2008).

Participants reported finding it difficult to trust members of their immediate and extended families. All participants reported that their family no longer gathered for holidays and birthdays. All except the siblings agreed that they regarded their workplace as a shelter when things became especially difficult at home due to the SUD, because challenging work projects and good job performance boosted their self-esteem (Articles I-IV). Research by Dumont et al. (2012), Dawson et al. (2007), and Itäpuisto (2001, 2005) supports our finding that the workplace can be a refuge when there is a lack of cohesion and communication at home; it is part of human nature to want to be where one's performance is evaluated in ways that nurture self-worth.

It is interesting to discover differences among the four groups in how participants expressed their experiences. For example, parents with substance-abusing children and children with substance-abusing parents each described more devoted feelings toward the substance abuser such as caring and hope. Meanwhile, participants with a substance-abusing spouse or a substance-abusing brother or sister tended to express more hostile feelings such as apathy toward the substance abuser's suffering, a fading hope that the substance abuser would ever be able to change, and rage over the damage the substance abuser was perpetrating on the family (see Articles III and IV).

The differences could be the natural closeness of parents and children in contrast to domestic conflict between spouses and sibling rivalry. This hypothesis is supported by findings researchers have reported regarding loyalty between children and parents, and also attachment theory (Lander et al., 2013; Solis et al., 2012; Champion et al., 2009; Lee & Hankin, 2009; Meyers et al., 2002; Bowlby, 1980). Parents also described their anxiety about their children's wellbeing and their fears that someday they will be notified of their children's death due to substance abuse (e.g. an overdose). Furthermore, they often blamed themselves for the situation and felt guilty about it even though they knew 'in their heads' there was nothing they could have done better, as reported by Feigelman et al. (2011).

Research indicates that parents and other family members often grieve over the mental illness of a child or another close relative. This grief appears to arise from a profound sense of loss, which has been described above as complicated and 'non-finite' (Feigelman et al., 2011). Likewise, Anclair and Hiltunen (2014) and Richardson et al. (2011) have argued in their research that one unintended

consequence of the deinstitutionalisation movement has been to increase the family's sense of responsibility for their close relative's mental disorder and their sense of obligation to assume a caregiving role—a cause of considerable shared family stress.

In the sibling group, I noted that hostile feelings prevailed toward their substance-abusing brother or sister, as mentioned above. During the interviews, siblings said they felt the opposite of a lack of devotion—passive-aggressive detachment and hostility; some said they felt no feelings at all (apathy) towards their siblings, which supports the research of Pickering and Sanders (2017), indicating that lack of communication and serious disagreements can be very harmful to such relationships and lead to lifelong negative consequences. In their answers, siblings revealed their worries and concerns about the injuries being done to their parents; in this sense, their rage actually reflects their love for their parents (see Articles III and IV).

Chen and Lukens (2011) and Sin et al. (2011) wrote that despite social professionals' knowledge about the importance of developing family-inclusive services to meet the needs of young people with mental illness such as SUD, the needs of their siblings are often overlooked. Research has shown that siblings are greatly affected by the onset of the SUD or other mental illness in their brother or sister. Most siblings do not identify themselves as caregivers, although many siblings have a significant part in their substance-abusing brother's or sister's life. Research has also shown that siblings of individuals with SUD need accessible services and support, especially information and peer support (Amaresha et al., 2015; Sin et al., 2011).

As mentioned above, participants in the spouse group expressed a loss of affection, love, and caring toward their husband or wife suffering from SUD. All of the interviewees said they were considering divorce and resented finding themselves in a nursing role because of their husband's or wife's substance abuse (see Articles III and IV). The same situation has been pointed out in other research: that excessive alcohol consumption or other substance abuse increases the likelihood of divorce (Rognmo et al., 2013). It has also been shown that living with SUD degrades the cohesion and communication that couples once shared, as negative feelings such as anger, blame, guilt, shame, distrust, and hopelessness take over. The result is a gradual worsening of relationships as affection and care toward the partner with SUD deteriorates (Margasinski, 2014), (see Articles III and IV).

6.2 Model of predominant feelings of family members of close relatives with SUD

Most social workers and other professionals now recognise that SUD affects the whole family and the family system; following the FST, the SFT and family disease model (Usher, 2015; Sutphin et al. 2013; Haefner, 2014; SAMHSA, 2005). These models can help social workers and other professionals to understand and identify changes in the family system and the atmosphere within the family and provide more appropriate treatment—in behaviour, feelings, and the reactions of individual family members to the family environment as the disease progresses (SAMHSA, 2005).

The family disease model complements FST that regards the immediate family as a system of role-based subsystems such as spouses/partners, parents, children, and siblings. In such theories, each family member acts out a collection of such roles (for example, a child may also be a sibling, and a spouse may also be a parent), and these roles interact to create the life of the family. In dysfunctional families, these role assignments can get transferred so that, for example, a child feels compelled to become the caregiving ‘parent’ of the parent incapacitated by SUD. To restore harmony and balance to the family, it is sometimes necessary to reassign these roles with the guidance of a therapeutic professional through family therapy (Sutphin et al., 2013; Haefner, 2014; Hooper, 2007; Rothbaum et al., 2002).

To illustrate how a close relative with SUD can influence the roles of others in the family system, based on my study, I developed a functional model of emotional states showing how such feelings can grow and change among family members living with SUD. The model, illustrated in Figure 2 below (Article IV), is based on the data collected in all four stages of the studies of this research. A model such as this can be useful in helping professionals to develop family treatment options to understand how cohesion and communication can interact and change within a family system as the excessive use of alcohol and drugs consolidates into full-blown SUD (see Articles III and IV).

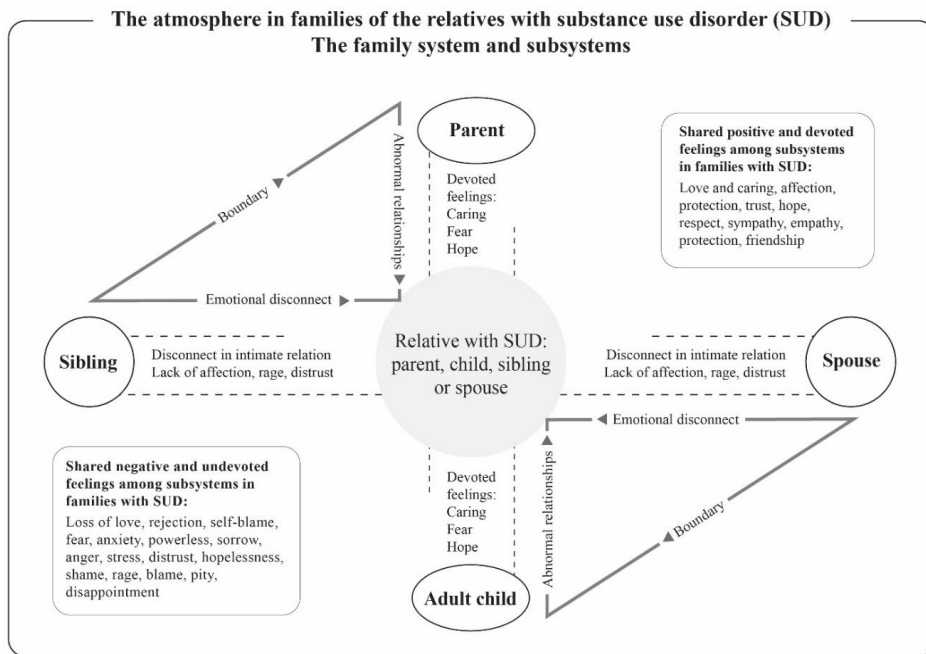


Figure 2. *Dynamic functional model of emotional states among family members living with SUD.*

Through analysing the quantitative outcomes and the semi structured interviews describing the interviewees' emotional states and feelings toward their close relative suffering from SUD, as the researcher, I was able to prepare the model above.

The model of the atmosphere in families of the relatives with SUD (Article IV) begins by presenting the family as a system of four interacting subsystems corresponding to the four principal roles in the immediate family. The family begins with the pairing of spouses/partners and expands when the pair become parents. More than one child implies siblings. Thus, the four principal roles in the immediate family are spouses/partners, parents, children, and siblings. Each of these four roles is associated with a set of expectations, activities, responsibilities, and privileges called a family subsystem. The four subsystems interact with one another to constitute the family system (Article IV). This view of the family is based on the FST of Bowen (1954-1959), the SFT of Minuchin (1960), and the family change process model of Satir (1988).

The interaction of the four roles is represented in the model by a cross, with the vertical spar being the parent-child relationship. The two roles forming the horizontal spar of the cross are the sibling and spouse/partner roles; each of these roles has one degree of separation from the primary parent-child relationship, as FST has highlighted (Nichols & Schwartz, 2004; Kerr & Bowen, 1988; Bowlby,

1980) (See further in Article IV).

The model of the atmosphere in families of the relatives with SUD (Figure 2, Article IV) shows the interruption of the flow of energy and emotion by the influence of SUD, presenting SUD as a kind of filter or blockage that turns positive into negative feelings. It occupies the centre of the cross since the family member who brings SUD into the family dynamic can occupy (and degrade) any of the four principal family roles. Note that the emotional flow in the diagram is bidirectional, from parent to child and back again so that the attitudes of parents and children are the same: caring, fear, and hope, which are negative attitudes partly redeemed by occurring within a frame of parent-child devotion. The flow of energy and emotion from siblings to spouses/partners and back again, lacking the parent-child devotion, is expressed in entirely negative terms; the same on both sides of the SUD blockage: disconnection of intimate relationships, leading to mistrust, rage, and lack of affection.

In the boxes at the top right and lower left of the diagram, the two poles of the bidirectional continuum of feelings are summarised as a list of positive or negative emotions. The positive pole of the continuum is determined by devotion; when SUD takes that away, what remains is the negative pole. Triangles at the top left and bottom right of the diagram define the boundaries of how the roles relate to one another, connecting child and spouse and connecting parent and sibling. These two boundaries define the boundary of the family, on the other side of which is emotional disconnection and abnormal relationships (see Article IV).

The model reflects the triangular relationships in Bowen's FST, which describes tension between two family members when communications are not direct, and family members use a third person to help relieve the tension between them (Bowlby, 1980; Kerr & Bowen, 1988; Nichols & Schwartz, 2004; Thompson et al., 2019).

During the past decade, clients in treatment for substance abuse have expanded from the substance abuser alone to include the whole family system of the immediate family (SAMHSA, 2005). This expanded therapy horizon can help people with SUD to become more aware of the damage being done by their SUD and can alert other family members to the ways their family life is being degraded and to how they may be enabling this result in various ways of which they were unaware.

This approach can lead to improved quality of family life for all family members while at the same time supporting the recovery of the family member with SUD. By offering a better understanding of the emotional states and predominant feelings of family members in each subsystem in the family system (meaning spouses/partners, parents, children, and siblings) the model of atmosphere in families of the relatives with SUD shown above could help professionals develop more direct and effective family group therapy and addiction recovery. This approach, in turn, could lower the costs of substance abuse for the family and society (Matthíasson, 2010) and improve overall health and social care (SAMHSA, 2005).

The following four points illustrate the dynamic (interactively changing) aspects of this model as has been described in chapter 5 above.

- 1) There are more devoted feelings and more caring bonds between parent and child subsystems, and since they are bidirectional, it matters less whether it is the parent or the child who is with SUD.
- 2) In the spouse-sibling relationship, the sibling with SUD and the non-addicted sibling(s) developed emotional disconnection and a lack of loyalty toward one another. At the same time, since siblings are also children and spouses are also parents (if there are children), there was an underlying loyal attachment even though the two roles are in a disturbed relationship toward the role associated with SUD.
- 3) At the same time, the model shows that the relative with SUD and some of the non-addicted family members could be operating within a single role subsystem, such as one addicted spouse and one not addicted. In these cases, a triangle of bi-directional energy and emotions can form when the person with SUD has a counterpart within the same role subsystem who does not have SUD but is also interacting with family members in the other subsystems. For example, one spouse may be addicted and one not, with both relating separately as parents to children, and with children relating to one another as siblings. In this example, the spouse who did not have SUD developed emotional disconnection and disloyal feelings toward the addicted spouse, yet at the same time had both loyal attachments and close relationships with their child or children, and, simultaneously, the child(ren) can have a disturbed relationship with the parent with SUD.
- 4) Together with the boundary line, the emotional disconnect and abnormal practices lines form a triangle of dysfunctions—a combination that can lead to overlapping and confused family relationships that should be taken into account when families coping with SUD are treated in therapeutic settings.

To summarise, the model of the atmosphere in families of relatives with SUD presented in Figure 2 above can be used to improve treatment for the family system as well as for individuals. Moreover, the dynamics illustrated can help social workers and other professionals better understand the effects substance dependence has on family subsystems and the various relationships within the family system. This supports how the family as a system can influence all the family subsystems, and if something goes wrong with the family dynamic, the whole system needs to be taken into account (Ahmad-Abadi et al., 2017; Hofman et al., 2012) (see Article IV).

According to Orford et al. (2010), the SSCS model assumes that living with a close family member affected by SUD can lead to stressful life circumstances, which could lead to the issue that the family members can experience strain in their everyday life which can impact their health and wellbeing. The atmosphere in families of the relatives with the SUD model (Figure 2, Article IV) also highlights

stress factors as a dominant feeling among family members and explains how it manifests in triangular relationships between family members regarding which family member is affected by SUD. The main element of the SSCS model is helping family members of a relative affected by SUD to understand how living with such circumstances can lead to their own stress by dealing with such difficult situations. The SSCS model also established that it is necessary to help family members to increase their coping skills to deal with their feelings and family situations and to be more active in their lives, which leads to decreasing the strain (Kourgiantakis & Ashcroft, 2018; Orford et al., 2010). In the model of the atmosphere in families of the relatives with SUD (Figure 2), feelings and relations between subsystems within the family system as a whole living with SUD are explained more accurately, so it would be very suitable for professionals using these two models together to provide family members the best information about SUD as well as providing them social support.

6.3 Conclusions and further research

There are several strengths to this study. First of all, the articles included in this thesis are among the few studies conducted in the Nordic countries to examine families of SUD-affected individuals, where the focus is on the sub-systems within the family system. Furthermore, the results are new to Iceland, due to lack of research in this area.

In this study both quantitative and qualitative methodology were used, which gives greater strengths to this thesis. Three survey tools were used in the quantitative part of the study, the Family Satisfaction Scale (FSS) and the Family Communication Scale (FCS) were used to measure how satisfied family members are regarding communication and cohesion within their families. Moreover, the Depression Anxiety Stress Scale (DASS) was used to analyse the mental and psychosocial wellbeing of family members living with a relative affected by SUD. These three survey scales have never previously been used on this population—i.e. family members of relatives with SUD in Iceland—and this study can give Icelanders, the Icelandic healthcare systems, professionals, and researchers a sound insight into how substance abuse can impact the family as whole regarding health and wellbeing. In the qualitative part of the study, the interviewees expressed their experience of how they felt the substance-abusing relative had influenced their mental, physical and social life. Through their testimony the results of the quantitative part of the study became more alive, i.e. they give the participants who had answered the questionnaires a voice. After I had analysed all the data, I was able to develop new knowledge and propose a model of the emotional state of families living with SUD (Figure 2, Article IV).

The results of this study indicate that these non-addicted individuals require clinical therapy to the same extent if not more than the family member with SUD. Around 36% of respondents reported average to serious depression, anxiety and stress, and also reported less cohesion and communication within the family (see Articles I-IV). In light of these findings, the research reported in this study can point the way toward promoting and improving treatment for the whole family as a system, as well as for SUD-affected family members. Moreover, the results can help social workers and other professionals to better understand the effects that substance dependence has on family systems and public health in general (Lander et al., 2013; Usher, 2015).

When I was analysing the data for this thesis, it became clear that *living with a close relative suffering with SUD affects the whole family system, in different ways determined by each role-based subsystem* according to their expression of their emotional state and feelings. (Examples of a role-based family subsystem would be the two parents of a substance-abusing child, or the children of a substance-abusing parent, or the sibling(s) of a substance-abusing brother or sister.) Developing a better understanding of the emotional state and predominant feelings of family members in each subsystem of the family system in relation to the individual with SUD could help professionals develop more targeted therapy when SUD is involved (see Articles I-IV).

When a family experiences illness or other difficulties affecting one family member, research shows that it can be helpful to seek professional help to integrate a new pattern of interaction within the family system (Rivett & Street, 2009) via the collection of group treatment approaches known as family group therapy. Whether an adult or a teenager is the substance abuser in the family, it is important for the whole family to be treated as a unit (Haefner, 2014; Sutphin et al., 2013; SAMHSA, 2005). Family group therapy and partners' therapy have become appropriate approaches for treating the individual with SUD. Research has shown that if the whole family is being treated at the same time, the outcome improves for the recovery of the individual with SUD, and also the health and wellbeing of the family system (Ahmad-Abadi et al., 2017; Haefner, 2014; Sutphin et al., 2013).

The family disease model determines how to identify changes in the family's behaviour and how individual family members react to the family environment as the disease progresses (SAMHSA, 2005). FST regards the family in a holistic way, as a single system, and constituting that system are the subsystems of spouses, parents, children, and siblings. Each subsystem member has a specific role and interacts with the others. In dysfunctional families, the roles and interactions among these subsystems can change in dysfunctional ways, for example, when the child turns into the caregiver of a parent incapacitated by SUD.

The research undertaken for this thesis demonstrates that an understanding of SUD's effects in families must take into account that the different role-based

subsystems—spouses, parents, siblings, and children—have different needs and perspectives; thus, in family group therapy, one size does not fit all. A giant leap forward in responding to SUD would be to tailor family group therapy to the dynamics of the various family subsystems and to offer it to every family suffering from SUD. The key realisation guiding such targeted therapy is that the individual with SUD is also one of the units in the family system. Providing family group therapy without the individual with SUD as a central focus fails to treat the family as a whole system.

The research for this thesis also makes it clear that growing up with a parent or other family member with SUD is a very significant risk factor. In their adult years, individuals who have faced this challenge are much more likely to develop SUD or depression (or both) themselves (Johnson & Stone, 2009). The interviews in the fourth part revealed that three out of four interviewees who had grown up with one or both parents with SUD had struggled with the disorder themselves in their adolescent or adult years. This agrees with Johnson and Stone's research (2009) and comparable research conducted in Finland, where it was found that SUD during a child's upbringing predisposes the child to abusive consumption of drugs and/or alcohol, both in their teenage years and later as an adult (Kestilä et al., 2008).

The model of atmosphere in families of relatives with SUD (Figure 2) that emerged during the analysis of both the quantitative and qualitative results is new to the field of substance abuse research. This model defines the various attitudes individuals may hold toward their substance-abusing family member based on family roles. These differences are illustrated in Figure 1. The four subsystems—spouses, parents, children, and siblings—expressed their feelings toward their close relative with SUD in different ways. Understanding the relationship between each role of the subsystems within the family system relates to the close relative with SUD could lead to more individualised family group therapy that would support the recovery of the family system as a whole, including the substance abuser (see Article IV). Furthermore, the model of atmosphere in families of the relatives with SUD (Figure 2) supports the main focus of the SSCS model, which assumes that living with a close family member affected by SUD can lead to stressful life circumstances, which could lead to dysfunction and overload of strain in their lives (Orford et al., 2010).

The model of the atmosphere in families of relatives with SUD can be useful for further areas of research that focus on one or more aspects of this model. Thus, the model provides family addiction therapists with a tool for understanding how cohesion, communication and emotions can change between family members. Other research based on this model could interview a new group of family members selected on the same basis as the original group to strengthen or improve the model. Consideration could also be given to increasing the sample size and creating a survey to test the hypothesis presented in this model.

Above all, the results show that all family members suffer when one family member has SUD. It is thus imperative for clinicians to treat the family as a whole, and to do so as early as possible. This approach is beneficial for the family member who suffers from SUD and can also be regarded as a preventive measure for succeeding generations.

An important finding of this work is that the way each role relates to the family member with SUD is just as important as how each role relates to any of the other three roles. Siblings expressed aggression and rage toward their substance-dependent brother or sister; spouses/partners expressed shame and sympathy toward their substance-dependent spouse/partner; parents expressed fear, hopelessness, sadness, and guilt toward their substance-dependent adolescent son or daughter; and adult children of SUD expressed shame, lack of happiness and joy, and lack of trust toward their substance-dependent mother or father (Articles I-IV). These results confirm previous research indicating that any family member's SUD adversely impacts other family members' state of health, which over time can lead to mental and physical disorders. Also confirmed by the findings of this thesis is research showing that sharing a home with an individual who abuses substances tends to increase the likelihood of such mental and physical disorders (Denning, 2010; Dawson et al., 2007; Itäpuisto, 2001, 2005; Lander et al., 2013).

One simple and direct follow-up to this study could be to examine close relatives who are substance abusers suffering under the influence of SUD, using the same procedures developed for this study, to formally document how substance abusers express their experiences and feelings. The reliability of the work would then enhance the ability to compare results. Learning how relationships are and are not bidirectional and reciprocal between the relative with SUD and the other family members and their roles could provide a sound basis for more tailored therapy that would support the recovery of both the substance abuser and the family as a whole.

Further research is needed on the influence of being brought up by a parent who has SUD. Considering of the findings in this study and others (Kestilä et al., 2008; Tyrfingsson et al., 2010), such additional research could sharpen professionals' understanding of that formative experience and could ascertain whether an upbringing associated with SUD can lead to depression in younger years and overconsumption of alcohol and other addictive substances in adult years. The findings could be especially valuable when it comes to measuring and managing how national health is affected by SUD and how preventive measures could be developed to improve the quality of life of these families.

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Appendix I–Treatment for family members of substance-dependent users

In this study, the term ‘family member’ refers to a person who has been adversely affected by the compulsive substance use of one or more other persons in the same family. Although the term ‘family member’ is used in everyday language, within the Al-Anon community, following the twelve-steps programme, a family member is often referred to as a co-dependent, indicating a co-dependent and enabling relationship with the substance-dependent user.

Treatment for family members of substance-dependent users within Al-Anon at the Icelandic National Centre of Addiction Medicine (SÁÁ) has been developed simultaneously with treatment services for substance-dependent users since its inception about 35 years ago. The treatment is based on the Minnesota model, the twelve-steps programme as well as the family disease theory. Family members receive outpatient treatment so they can attend one-on-one appointments with an alcohol-and-drug counsellor and enter family group therapy (often referred to as family workshops) (SÁÁ, n.d.).

According to information from the Outpatient Department at SÁÁ concerning the year 2016, about 3,000 people participated in family therapy between 2006 and 2016.

Participants in family group therapy attend two sessions per week for four weeks at the SÁÁ, with each session lasting about four hours. In addition, participants can take part in a weekly support group with alcohol-and-drug counsellors in the Outpatient Unit once the family group therapy course is over.

Family group therapy at SÁÁ covers a range of topics aiming to deepen participants’ understanding of substance dependence and its harmful effects on families, and also to teach them how to manage or eliminate the negative impact that substance dependence has had on their family, and thus recover from the resulting distress and generally poorer quality of life. The topics include:

- Alcohol and other substance dependence
- How dependence and unwarranted support can change the family dynamic
- Self-respect
- How recovery unfolds: (1) for substance-dependent users, (2) for family members, and (3) for the whole family
- Promotion of self-help groups such as Al-Anon (SÁÁ, n.d.).

University Hospital of Iceland

At the University Hospital of Iceland (LSH), there is no special treatment available for family members of substance-dependent users, but there is an option for a session with a psychologist or social worker. The function of a mental health social worker

in the addiction clinic is to work with individual clients to enhance their personal strengths. Emphasis is placed on strengthening both the individual and their family by offering family group therapy when appropriate (LSH, n.d.).