

‘Everything Collapses Once Again’: Depression, Anxiety, and Stress Among Close Relatives of Icelanders With SUD

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Abstract

Background: This research explores the extent to which the use of alcohol or drugs by one member of a family affects the mental health and psychosocial state of other family members. Are Icelandic family members of substance abusers more likely to report increased depression, anxiety, and stress compared to the general population? Are there significant differences between family members, such as spouses, parents, adult children, and siblings? And do family members express their feelings and experience in a similar way?

Methods: To answer such questions, the Depression Anxiety Stress Scale (DASS) was used to measure those three negative mental states. In the quantitative phase, the study investigated the differences in the average reported responses on the DASS in families with a chemically dependent parent, sibling, spouse/partner, or child. For the qualitative phase of the research, sixteen in-depth interviews were conducted with relatives of individuals afflicted with Substance Use Disorder (SUD).

Results: Over 35% of the DASS respondents in all three subscales (depression, anxiety, stress) were found to have average, serious, or very serious depression, anxiety, and/or stress. The interviews revealed interesting differences among how the behaviour of the family member with SUD affected each kind of relative: parents, children, siblings, and spouses.

Conclusion and Applications: The results of this study can be used to improve and promote treatment for the whole family as a unit, as well as for individual family members, and can help social professionals to better understand the effects of substance dependence on families, family systems, and public health in general.

Keywords: Substance Use Disorder, depression, anxiety, stress, psychosocial, family member, family group therapy.

1. Introduction

The aim of this research is to measure the extent to which living with an individual afflicted by Substance Use Disorder (SUD) affects the mental health and psychosocial state of other family members, especially their depression, anxiety, and stress¹. Questions addressed by this study include: Are family members of substance abusers in Iceland more likely to report increased depression, anxiety, and stress, compared to the general population? Are there significant differences in how family members are affected, depending on whether they are spouses, parents, adult children, or siblings of the substance abuser? And do those family members express their feelings and think about their experiences in similar ways?

Substance Use Disorder is a disease whose social costs are high. The negative effects of drug and alcohol abuse go well beyond the health and mental condition of the person who abuses, showing up as a degradation of the abuser’s immediate social environment (Meyers, Apodaca, Flicker & Slesnick, 2002), beginning with the family with whom the abuser resides. Conflicts can come about in relations within the family because of the stress that builds up due to the substance user’s chemical dependence (Hrafnisdóttir & Ólafsdóttir, 2016; Ólafsdóttir & Hrafnisdóttir, 2011). Research has shown a strong link between addiction and the disruption of family relationships, including severe mental, psychosocial, and physical effects on family members—effects described as depression, anxiety, and stress (Bortolon, Signor, Moreira, Figueiró, Benchaya, & Machado et al., 2016; Jhanjee, 2014; Lander, Howsare & Byrne, 2013). Depression affecting parents can contribute to the mental, physical, and social neglect of their children, further aggravating the family’s anxiety and stress (Hrafnisdóttir et al., 2016, Ólafsdóttir et al., 2011; Denning 2010).

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Comparable studies have focused on those who are afflicted with SUD. This study's special contribution to international alcohol and drug research is to look beyond the abusers to the effects of addiction on their family members. The results can be used to better understand the effects of substance dependence on families in ways that improve and promote treatment for individual family members and for the family as a unit. For example, the depression suffered by a parent living with a partner afflicted with SUD can contribute to the mental, physical, and social neglect of the family's children, further aggravating the family's anxiety and stress (Hrafnisdóttir et al., 2016, Ólafsdóttir et al., 2011; Denning 2010).

This study shifts the focus of family substance abuse. It was popular in the latter part of the 20th century in family therapy (1960s-1980s) to focus on children, specifically the effects of parental substance abuse on the parent's children. In the mid-1980s, the focus shifted more towards the individual afflicted by SUD rather than on the family as a whole. Recently, the focus has again shifted, now more toward how individual family members are affected by the substance abuser's struggle with SUD (Orjasniemi & Kurvinen 2017; Roine & Ilva & Takala 2010; Itäpuisto 2005; 2001; Holmila & Kantola 2003). The present study follows that trend, enabling a clearer understanding of the effects of substance dependence on whole family units.

This study is the first SUD research to rely on the Depression, Anxiety and Stress Scale (DASS) survey tool to analyse the mental, emotional, and physical well-being of the family members who live with SUD, rather than the substance abuser. By using this proven tool to examine the negative effects related to living with SUD, the findings of the study can be applied directly to efforts to improve and promote treatment for the whole family. The quantitative assessment provided by that tool was supplemented by qualitative assessment via one-on-one interviews with participants. The responses of those close relatives of substance abusers give them a voice in the study's results, while enabling investigators more fully to appreciate how SUD at such close quarters can affect the mental, physical, and social aspects of their lives.

Further, this is one of a few studies to consider family dynamics related to substance abuse in Iceland. To date, little SUD research has been conducted done in Iceland that is comparable to research involving the other Nordic countries, the European Union, or the United States. This study both contributes to the literature and understanding of the mental well-being of family members living with SUD, and also contributes to the general understanding of substance abuse in Iceland. This study's statistical findings about alcohol consumption can provide some understanding of how Iceland compares to its Nordic cousins.

Background: Psychosocial Impacts of Substance Use Disorder on Couples

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 (Ólafsdóttir & Hrafnisdóttir, 2011; Denning, 2010). A person whose domestic partner is a substance abuser can experience breakdowns in communication, decreased intimacy, repressed psychosocial stress, emotional clashes, and even physical violence (Lander, Howsare & Byrne, 2013; Dawson, Grant, Chou & Stinson, 2007; Itäpuisto, 2005;2001).

Research has documented that couples are likely to separate in the early years of their relationship because of substance abuse by one or both partners. For example, a 2007 study by Kenneth, Leonard and Eiden collected data on nearly twelve thousand couples—specifically, 11,682 women at least eighteen years of age at the time of the study, each of whom was living with a partner who abused alcohol, addictive drugs, or both. The control group was composed of women who did not live with a substance-abusing family member. Each woman in both groups answered a self-assessment survey about her state of health in the twelve months previous to the study. The most significant finding was that women who live with substance-abusing partners tend to have much worse states of health, with more anxiety, stress, physical illness, and significant impairment of their overall quality of life as indicated by lower family incomes and more domestic abuse (Dawson, Grant, Chou & Stinson, 2007).

A study of a similar nature used data furnished by the National Epidemiologic Society on Alcohol and Related Conditions (NESARC) in the United States investigated the effects of one live-in partner's substance abuse on the mental and physical health of the other partner (Hasin, Stinson & Ogburn, 2007). Increased stress affects psychological health, and caregivers report feeling higher levels of anger (Blum & Sherman, 2010), depression, and anxiety (Blum & Sherman, 2010; Bowen & Riley, 2005). One counterintuitive finding of the Nord-Trøndelag Health Study (HUNT) was that while alcohol consumption increases spousal mental distress, such distress is not commonly correlated with proportionately greater alcohol consumption (Rognmo, Torvik, Ildstad & Tambs, 2013). This seems to suggest that the distress experienced by spouses results from alcohol abuse in general rather than from the quantity of alcohol being consumed.

At the same time, the relationships of couples who consume large amounts of alcohol do more often end in divorce. One research team found that high alcohol consumption not only increased the likelihood of divorce, but also impeded the mental and emotional healing process following the divorce (Rognmo, Torvik, Røysamb & Tambs, 2013). According to the World Health Organization (WHO), in general women develop clinical depression fifty percent more frequently

than men (WHO, n.d.).

Background: Psychosocial and Physical Effects Of Parental Substance Abuse on Children

Previous studies have shown that the effects of substance abuse on a family depend partly on which family member is the abuser (Bortolon et al., 2016). Parents of teenagers often feel responsible when their teenager is a substance abuser, and as a result they may be in denial about that reality; or they may blame themselves and experience guilt, stress, anger, sadness, and a need to assist the youngster to overcome the addiction (Bortolon et al., 2016; Waldron, Kern-Jones, Turner, Peterson & Ozechowski, 2006).

At the same time, people who struggle with SUD as abusers because of depression are often parents or guardians of children who are themselves depressed. According to information from the U.S. Department of Health and Human Services (HHS), more than seven million American children live with parents who abuse alcohol, affecting about one in fifteen American households (U.S. Department of Health and Human Services [SAMHSA], 2012).

A healthy self-image and good self-esteem accompany interactions between family members characterized by trust and mutual respect. Children who grow up feeling close to parents who are worthy of their trust find it easier to trust others and to form close relationships in adulthood (Park, Crocker and Mickelson, 2004). But if a child grows up with a lack of trust and emotional intimacy with his/her caregivers – for example due to dependence on alcohol or drugs by one or more of those supposed caregivers – that experience can contribute to a sense of insecurity about relationships in adulthood that can interfere with the formation of positive relationships characterized by emotional intimacy. The result can be difficulties in trusting others and in feeling secure in relating to others, whether as a couple or a family (Johnson & Stone, 2009; Mikulincer and Shaver, 2007).

Studies have shown that adults in partnerships define intimacy and emotional attachment to one another by evaluating their partner's behaviour towards themselves. It has also been observed that a couple's shared belief that the two partners can resolve conflicts and disputes through negotiation bodes well for effective communication and contentment within the family. The relation between intimacy and communication in couples' relationships provides evidence of family contentment and cohesion (Dumont, Jenkins, Hinson & Sibcy, 2012). Conversely, studies have shown that if there is little trust or emotional intimacy in a couple's relationship, it is more likely that spouses and children in the family will experience anxiety and a lack of contentment with family life (Hrafnisdóttir & Ólafsdóttir, 2016; Dumont et al., 2012).

Substance abuse by parents related to their depression typically produces stressful family interactions with adverse psychosocial effects on children, who observe that parental conflicts, illness, and financial upsets cause the impoverished living conditions the family must endure (Orjasniemi & Kurvinen, 2017; Hrafnisdóttir & Ólafsdóttir, 2016; Sang, Cederbaum & Hurlburt, 2014). Children in such situations may find it more difficult to trust others and form healthy emotional connections (Lander, Howsare & Byrne, 2013; Solis, Shadur, Burns & Hussong, 2012; Champion et al., 2009). Children of substance abusers are at greater risk than other children for social and emotional conditions such as anxiety, anger, guilt, shame, and depression. Approximately twelve percent of children and teenagers in the U.S. fit the diagnosis criteria for depression, almost half of whom have a family history of depression (Mason, Haggerty, Fleming & Casey-Goldstein, 2012).

Background: Psychosocial and Physical Effects of Parental Substance Abuse on Adult Children and Siblings of Substance Abusers

Research by Mason et al. (2012) and Wodarski (2010) implicates environmental factors as a probable contributor to SUD. Research in the U.S. by Johnson and Stone (2009) revealed the extent to which living with drug use as a child is correlated with an increased risk of substance abuse and clinical depression as an adult. For that study, data was collected on 9,346 individuals who had reported their medical histories in preparation for surgery related to various physical conditions. Those histories were reviewed all the way back to childhood to determine whether they were at greater risk than others of developing SUD or depression. About one-fifth of them had grown up with at least one parent who was a substance abuser or was clinically depressed, or both, and who consequently neglected or abused their children. As they grew into adulthood, those children were much more likely to develop SUD and/or depression (Johnson et al., 2009).

Reinforcing that finding, a Finnish study published in 2008 made use of data collected in the years 2000 and 2001 from a sample of young adults between the ages of eighteen and 29 (N = 1234) with a response rate of 65%, using both qualitative and quantitative methodologies. Its conclusion was that the social situation in which a child is raised influences the likelihood that in adulthood the child will be a consumer of addictive substances, and that the abuse of addictive substances tends to be worse when the parents are separated. Further, participants in the study believed that adverse circumstances of their upbringing had contributed to their having developed personality traits such as depression, social inactivity, and substance abuse. This and other research findings indicate that growing up with alcoholism and the neglect that accompanies it has strong and persistent adverse effects on children, including a greater tendency to abuse alcohol as

teenagers and adults (Kestil äet al., 2008).

Sibling relationships can also significantly affect socialization processes (Criss & Shaw, 2005). Healthy sibling relationships are correlated with better social skills, greater self-esteem, and greater facility in forming positive emotional attachments to others (Button & Gealt, 2010). On the other hand, growing up with a sibling who has shown at-risk behaviour such as drug abuse contributes to hostile interactions between siblings, such as verbal abuse or other aggressive behaviour. Children who are not substance abusers can develop lower self-esteem, anxiety, anger, shame and isolation from their association with substance-abusing siblings (McHale, Updegraff & Whiteman, 2012; Button & Gealt, 2010).

The genetic basis of a tendency toward substance abuse has also been substantiated by research conducted on human twins and non-human animals. If one or both parents abuses alcohol and/or is an abuser of addictive substances, the child is forty to sixty percent more likely to grow into being a substance abuser as an adult in life (D áz-Anzaldúa, D áz-Mart ínez & D áz-Mart ínez, 2011). A research study based on clinical data from nearly twenty thousand individuals in Iceland who had been treated for addiction over the past three decades demonstrates a strong link between genetic heritage and risk of addictive substance dependence. The sons of substance abusers were most at risk at 78%, compared to 22% for daughters (Tyrfingsson et al., 2010).

2. Measurement

The Depression Anxiety Stress Scale is an instrument designed to measure depression, anxiety, and stress as three related mental states. It was first developed by Lovibond and Lovibond in Australia (Lovibond & Lovibond, 1995). Originally the DASS scales were developed to provide a self-assessment survey for research projects examining just two factors: depression and anxiety (Crawford & Henry, 2003). In the process of analysing those two factors in the pre-analysis of the questionnaire, it was noted that participants tended to respond with states that are not solely connected to depression and anxiety, such as annoyance, confusion, and impatience. To counteract that tendency, more questions were added to measure a third factor: stress (Ingimarsson, 2010). The DASS has been translated into numerous languages, and experimental applications have been made in many countries (Crawford & Henry, 2003).

Individuals taking the DASS are asked to respond to assertions about their behaviour and state of emotional health over the previous week, divided into three parts: the first 14 statements measure depression; the next 14 measure anxiety; and the final 14 measure stress, for a total of 42 statements. Possible answers are registered on a four-point Likert scale, in which 0 = not at all appropriate; 1 = appropriate sometimes; 2 = considerably appropriate; and 3 = mostly appropriate. 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 the mental state associated with that part.

The Icelandic psychologist P áur Tyrfingsson translated the DASS into the Icelandic language in 2007, and its experimental characteristics were researched by Ingimarsson (2010). Ingimarsson's research was based on responses to the DASS by 373 students at the University of Iceland along with other self-assessment surveys for comparison. This research determined that the experimental characteristics of the Icelandic edition of the DASS were in harmony with the conclusions of research conducted in other nations. Reliability according to Cronbach's alpha of the subscales was: depression $\alpha = 0.92$; anxiety $\alpha = 0.85$; and stress $\alpha = 0.9$.

Table 1. Normative data for the Icelandic DASS survey

	Depressio n	Anxiety	Stress
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

Table 1 shows the normative data for the Icelandic edition of the DASS survey (Ingimarsson, 2010).

All statistical processing was done using version 24 of SPSS, and descriptive statistics were used to describe all of the variables in the project, including background variables such as gender, age, income, and relationship status. For that

purpose, the responses were grouped into *parent, sibling, partner, or child* groups.

Descriptive statistics were used to designate data characteristics and participants' DASS scores. Means were compared using an independent T-test and one-way ANOVA. Bonferroni correction was used to identify where differences, if any, lay. The significance level for all statistical tests was set at $p = .05$.

Methodology and Significant Findings

Quantitative data: This study consisted of two phases. In the first phase, the study employed quantitative techniques to investigate whether there is a difference in the average reported responses on the DASS in families with a chemically dependent parent, sibling, spouse/partner, or child. The instrument used for this phase was the Depression Anxiety Stress Scale (DASS), which is designed to detect and measure those three negative mental states and their relation to one another. It was administered to survey participants in a first day they were taking part in a four-week group therapy programme for relatives of family members afflicted by SUD (Substance Use Disorder). Analysis of the responses indicated that at least 36% of the respondents in all three subscales were measured as having average, serious, or very serious depression, anxiety, and/or stress. This is higher than in studies conducted in Iceland in which the DASS instrument has also been applied 'Health and well-being of Icelanders (HCI), 2009' (Guðlaugsson & Jónsson, 2012). At the same time, it made little difference to the family's well-being whether the family member affected by SUD was a parent, child, sibling, or spouse. This is interesting regarding to the research Dawson *et al*, (2007), where the result shown that women who live with a substance-abusing spouse or partner tend to have much worse states of health, with more anxiety, stress, and physical illness, along with substantial impairment of their overall quality of life as measured by lower family incomes and greater degrees of domestic abuse.

Qualitative data: The qualitative second phase was carried out in the spring and summer of 2016, after the results of the quantitative component became available. The researcher gathered descriptive data in the form of verbal descriptions from family members (sources) who have a substance-dependent user of alcohol or drugs, along with descriptions of observable responses. In this research to collecting the data snowball methods was used, which is where research participants recruit other participants for a study (Neuman, 2014; Padgett, 2008). For this phase, in-depth interviews focusing on the experiences of adult children of substance abusers were conducted with relatives of individuals afflicted by SUD who were not in family group therapy at the time of the interview. A total of sixteen relatives of substance abusers were interviewed: four spouses, four adult children, four parents, and four siblings; each of the groups of four consisted of two males and two females. All sixteen interviewees were selected because they were from families with one or more substance-dependent users, and because they were not substance-dependent users themselves or had been in a recovery last five years.

The interviews took place in the participants' homes or in the researcher's office, and the duration was on average about fifty minutes. The interviews were open-ended, semi-structured (Kvale, 1996), and based on an interview guide. The interview questions were about participants' experiences and the impact their relative's substance use had on their everyday lives, especially regarding psychosocial effects (depression, anxiety, stress). The questions were designed to encourage interviewees to express their feelings in ways that would help reveal differences in the experiences of these four groups. All interviews were digitally recorded, transcribed, and analyzed with systematic text condensation (a descriptive method for thematic cross-case analysis of diverse types of qualitative data; Malterud, 2012).

At the present time, few studies of family and substance abuse have been conducted in Iceland. Not only will this study contribute to the literature and understanding of the mental and physical conditions of family members living with SUD, but it will also contribute to the understanding of substance abuse in Icelandic families overall.

Ethics and Limitations of This Study

In all research, there are limits to the tools used. In this case, the data size is relatively small ($n=143$), which may not reflect the experiences of all individuals who have family members afflicted with SUD. Nonetheless, the findings can provide an indication of the mental health effects experienced by this sub-group within society.

From an ethics perspective, none of the participants were currently in therapy for their own SUD, and none were under the age of 18. The survey was anonymous, and all documents were properly destroyed at the conclusion of the evaluation. The identifying information was encrypted so the data could not be traced to the participants of the study and was deleted after processing and analysis. The Icelandic National Bioethics Committee and the Research Committee of the Icelandic National Centre for Addiction Treatment (SÁÁ) each granted permission for this project.

There are two limitations to the qualitative phase of the study: first, the relatively small number of people interviewed ($n=16$); and second, the same researcher carried out all of the interviews, analyses, and interpretation of the data. Participants in the qualitative phase were offered the option of one therapy session with the professional free of charge. Since all of the participants in the quantitative phase of the study were already enrolled in a therapy group, they were not

offered additional therapy.

3. Results

To examine whether an individual's substance use disorder (SUD) influenced the mental or emotional states of other family members, especially with respect to depression, anxiety, and stress, participants for this study to collecting the data purposive methods were used. To participate, an individual had to be: 1) over 18 years old when taking the questionnaire; 2) a member of a family with a history of SUD (as a child, spouse, parent, or sibling of an individual with SUD); and 3) a participant of a specific family group therapy programme. The DASS survey was administered on the first day of a four-week family group therapy programme at the Icelandic National Centre for Addiction Treatment (SÁÁ) held from August 2015 to April 2016. The data group consisted of 143 individuals: 32 men (22%) and 111 women (78%). Unlike the low response rates typical in such research, on this occasion the response rate was one hundred percent, presumably because the data was drawn from people who had elected to devote time and attention to the well-being of their families by participating in family group therapy, and also partly because of the active presence of the lead researcher.

The average age of the participants was 44.5 years of age; the youngest was 19 and the oldest was 70. They were divided into five age groups and spread approximately equally: 18 to 29 years (17%); 30 to 39 (19%); 40 to 49 (17%); 50 to 59 (27%); and 60 and older (20%). Most participants, 82%, were living with a partner and children; the remaining 18% were single or separated. Women were distributed fairly equally among the age groups (17% to 24%). Most of the men were in the 50-59 age group (38%), while the fewest men were found in the 30-39 age group (9%).

Thirty participants reported that they are adult children of a parent with SUD, 47 are a spouse, 56 are parents of a child with SUD and 10 are siblings. Each participant was asked why he or she had applied for the family group therapy programme; the responses indicated that half of the men applied because a child was consuming addictive substances, and the other half because of a parent or partner doing the same. A similar number of women (36%) applied because of a child's drug use, or a partner's. Only 9% of participants, all women, applied for the programme because of a sibling's drug use.

The level of education among the participants was spread rather equally: most (41%) had completed a university-level education, 27.5% had finished upper secondary school, and 31.5% primary school. When the participants were grouped by income, the largest group (37%) had monthly incomes between 250,000 to 500,000 ISK (about \$2,250 to \$4,500 USD); 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 the working population of Iceland was 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.

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 those 5% were unemployed. Based on that research, employment and unemployment figures also mirror the employment of participants in this research (Statistics Iceland, n.d.b.).

Table 2 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 of particular concern 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/or stress.

Table 2. Breakdown of participants according to the (Icelandic) diagnostic criteria.

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

Table 3. Descriptive statistics for the DASS subscales for the whole and according to gender.

	Number	Mean	Median	Standard Deviation	Lowest value	Highest value	<i>P</i>
<u>Depression</u>							
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	
<u>Anxiety</u>							
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	
<u>Stress</u>							
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	

Table 3 shows no significant difference between the genders and their responses to the DASS subscales.

Table 4. Results on the DASS subscales according to SUD-affected family member.

	Mean	Median	Std. Deviation	95% Interval Lower bound	Confidence Upper bound	N
<u>Depression</u>						
Parent	11.6	10.5	9.2	8.7	15.0	30
Partner	12.4	11.0	9.6	9.6	15.2	47
Child	12.4	10.0	10.7	9.5	15.2	56
Sibling	9.3	5.5	9.9	2.2	16.4	10
Total	12.0	10.0	9.9	10.4	13.6	143
<u>Anxiety</u>						
Parent	8.8	7.0	8.6	5.6	12.0	30
Partner	8.9	8.0	8.4	6.5	11.4	47
Child	7.8	4.0	9.9	5.1	10.4	56
Sibling	4.1	3.0	3.5	1.6	6.6	10
Total	8.1	6.0	8.8	6.7	9.6	143

<u>Stress</u>						
Parent	14.9	12.0	10.3	11.0	18.7	30
Partner	17.3	16.0	9.5	14.6	20.1	47
Child	14.3	13.5	9.0	11.9	16.7	56
Sibling	13.2	11.0	8.4	7.2	19.2	10
Total	15.3	15.0	9.4	13.8	16.9	143

Table 4 presents the results for the DASS subscales based on which family member is reported to have had SUD. It shows that the groups are nearly equal, with no significant differences measured between them: 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 DASS scale has been used in the general population study 'Health and well-being of Icelanders (HCI), 2009', for which questionnaires were sent out to a random sample of 5,294 Icelanders aged 18-79 years. The response rate was over 77.3% (Guðaugsson & Jónsson, 2012).

When the results of the present study are compared to the findings of that survey, 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 programme scored much higher on all three scales, suggesting that the participants were worse off mentally or psycho-socially than the participants in the study HCI, 2009 (see Table 5).

Table 5. Results of the participants in the research compared to the survey HCI, 2009.

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

Table 5 shows that the participants were worse off mentally/psychosocially than those in the follow-up survey HCI (2009). No significant difference is evident between the genders and their responses to the DASS subscales.

Qualitative Phase of the Study

The participants in the qualitative phase of the study were chosen with purposive sampling, in which participants were selected only if they were related to an individual afflicted with SUD, in groups of four spouses, four adult children, four parents, and four siblings. Each group included two men and two women. All participants were between nineteen to sixty-five years of age (inclusive). The following shows the breakdown for each group of four, regarding relationships and SUD involvement.

In the group of **spouses** of individuals with SUD, three of the participants had been together for more than fifteen years. One woman was in her second relationship, and both her ex-partner and the partner with whom she is now living have a drinking problem. Three of the participants have more than two children, and one has no children. All but one of the participants were from families with no involvement with SUD; the one who did, grew up with an alcoholic father. All of them came from big families. Three of them are educated, in the labor market, and one is disabled and employment.

In the group of **adult children** of parent(s) with SUD, three of them had grown up with their mother's SUD and one with a father who had a drinking problem. Two had grown up with both biological parents, and the other two only with their mother. Three of the participants had struggled with SUD themselves. All the participants had siblings, either older or younger or both, all of them had experienced at least one intimate relationship, and three had a spouse. Two of the

participants had one child, one had two children, and one had no children. Two of them are educated and all are of them in the labor market.

In the group of **siblings** of individuals with SUD, three of the participants had one younger sibling with SUD, while one of the brothers had two younger brothers with SUD. Three of them had not grown up with SUD, but one had grown up with his father's drinking problem. All of them currently live with their own families (with their spouse and children), and all of them are educated and in the labor market.

In the group of **parents** of children with SUD, all four participants had one child with SUD. One of the children was his father's only child, while three of the parents had more than two children, and in each case the child with SUD was the oldest. All of the parents had been struggling with their children with SUD for more than five years. Two of the participants had been in relationships with the biological parents of these children with SUD, and two had lived with their partners for more than ten years. All of them were educated and in the labor market.

Together these participants reflect the purpose of the second part of the study: to give the family members of substance users a voice from a different point of view, whether they were spouses/partners, adult children, siblings, or parents of individuals with SUD. By doing so, the hope is to gain a deeper understanding of the human experience of depression, anxiety and stress behind the figures of the quantitative part of the study. The participants' responses revealed significant differences between the experience of family members and how they express those differences depending on whether they are spouses, parents, adult children, or siblings.

The responses revealed that all but two of the interviewees were feeling anxious and depressed and had sought professional help at some time in their lives. Ten of the sixteen had taken drugs prescribed by a physician to reduce the anxiety and depression. All but six reported that they had experienced high levels of stress in their daily lives related to the relative with SUD, such as trying to locate them, thinking about where they were, and trying to call or hear from them. This required them to take time from their work or other activities and other family members, increasing their stress and their feelings of failing as family members.

The six participants who reported that they were not suffering anxiety or stress were all four participants in the group of siblings with SUD, plus one with a parent with SUD and one from the group who had children with SUD. They did not link feelings of stress to the family member with SUD. As one of the interviewer in the group of siblings said:

... 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 stress or anxiety, because when I am stressed out I act out more by yelling at my loved ones and nagging them. And I certainly don't link it to my brother, whom I really try not to think about and try to avoid as much as I can ...

One in the group of parents expressed the same issue in a different way:

...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 f***ing 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...

These two quotations express four different feelings for two different groups, but both quotations are from family members of individuals with SUD. The siblings expressed aggression and rage, whereas the parents expressed sadness and guilt.

The following three quotations express the experience of depression, anxiety, and stress from three of the four groups: spouses/partners, parents of children with SUD, and adult children of parents with SUD.

Spouses/partners:

...I feel depressed and anxious all the time, and I take medicine prescribed by my physician. I take sleeping pills as well; if I don't take it before I go to bed, I don't sleep and the next day is ruined. I try to keep our marriage problems from consuming our children and family life; I'm constantly trying to pretend that everything is fine, I keep the house clean, I make sure that the kids are doing their homework and going to school...and I am working in my own job...I'm sometimes so stressed out that I almost don't remember my own name. Then there is my husband, who is drunk almost every night and every weekend, behaving like a child; I feel sorry for him and often ashamed of him, too. I just wish that things had not gone this way...

Parents:

...my physician diagnosed me with depression and anxiety; in the early stages of my child's at-risk behaviour, I couldn't sleep, I worried a lot and had lot of anxiety, so my ability to concentrate was affected...I had to take sick leave at work.

Now, after years of battle with my son's substance abuse, I am more frozen emotionally, I think. Today I would identify my feelings as fear, hopelessness, sadness, anxiety...and I am afraid that one day I will get the phone call from the police telling me that my son is dead. On a bad day, when I am freaking out because of these worries and fears, I get so stressed out that it is just overwhelming; I just try to be alone, otherwise I know I could start arguing with people and so on, just to relieve the stress...I don't blame myself anymore; I did the best I could as a parent and I still do...

Adult children:

...I remember when I was stealing toilet paper, soap, and other things that could be taken from school because we could not afford to buy it, because all the money my mother received went to her drugs and alcohol...I was so ashamed for her and for myself that I tried to hide my situation from my friends, and never spoke to them about my family... For example, during holidays I don't think I ever felt the same excitement and the same joy as other people talk about, only anxiety and stress and lot of depression...even though there is nothing in my life to worry about right now. I can feel how it has impacted my wife. I don't understand my own feelings, and I don't trust myself or her to talk about this or about my feelings... She is constantly asking me if there is something wrong, and then I get more stressed and annoyed, and all of a sudden, we start arguing ...

These three responses express the experience of depression, anxiety, and stress among six different relatives of individuals with SUD, from three of the four groups. The spouse expresses that she felt sorry for her spouse and felt ashamed for herself. The parent expresses fear, hopelessness, and sadness. The adult child expressed shame, a lack of happiness and joy, and a lack of trust.

4. Discussion

The participants in the primary (quantitative) phase of 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, or stress was insignificant. This is surprising, given that as a general rule women develop clinical depression 50% more frequently than men (World Health Organization [WHO], n.d.).

The responses of participants, all of whom are Icelanders, when compared to the general population study 'Health and Well-being of Icelanders, 2009' (Guðlaugsson & Jónsson, 2012) confirms previous research indicating that people who are relatives of individuals with SUD are worse off mentally and psychosocially than those who are not. This was evident in the much higher scores of participants for every DASS subscale compared to the statistics in 'Health and Well-Being of Icelanders'. Those higher scores also support the findings of earlier research by Hrafnisdóttir & Ólafsdóttir, 2016, 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 well-being of other family members sharing the same residential situation.

Perhaps surprisingly, when the participants' responses to the subscales were examined in relation to which family member is the SUD abuser, there were no significant differences between the groups, even though other research has shown that individuals who grow up with parents with SUD tend to have a worse state of mental health compared to those who have not faced that challenge (Orjasniemi & Kurvinen 2017; Hrafnisdóttir & Ólafsdóttir, 2016; Lander, Howsare & Byrne, 2013; Solis, Shadur, Burns & Hussong, 2012).

In the second (qualitative) phase of this research involving sixteen in-depth interviews, the following results emerged.

Twelve of the sixteen interviewees felt anxious and depressed, and had sought professional help sometimes in their lives. Ten of the sixteen had taken medicine prescribed by their physicians at some point in their lives and reported that they had felt high levels of stress in their daily lives because of their relationship to a relative with SUD. This tends to raise their stress levels, causing them to take time off from work or from relating to other family members, contributing to their sense of failing in their lives. These expressions of the experience of living with relatives with SUD support the findings of the quantitative phase of this study indicating that all participants have experience depression, anxiety, and stress in their lives, and that most had taken prescription medicine at some point in their lives.

Among the most interesting findings is how differently the groups expressed their feelings, based on the nature of their relationship to the family member with SUD. The siblings expressed aggression and rage; the spouses/partners expressed that they felt ashamed of and sympathetic toward their spouses; the parent expressed fear, hopelessness, sadness, and guilt; and the adult children of SUD expressed shame, lack of happiness and joy, and lack of trust. These results confirm previous research indicating that an individual's involvement with Substance Use Disorder adversely impacts other family members' state of health, which over time can lead to mental and physical disorders. Also confirmed is research showing that sharing a home with an individual who abuses substances tends to increase the likelihood of such mental and

physical disorders (Lander, Howsare & Byrne, 2013; Denning, 2010; Dawson, Grant, Chou & Stinson, 2007; Itäpuisto, 2005;2001).

The results also make it clear that growing up with a parent or another family member who has SUD is a very significant risk factor. In their adult years individuals who have faced that challenge are much more likely to develop SUD or depression (or both) themselves, which has been confirmed by research conducted in the United States (Johnson et al., 2009). In the interweave part of the research, in the group of adult children who had grown up with one or both parents with SUD, three out of the four participants had struggled with SUD themselves. This comports with the Johnson and Stone research (2009) and comparable research conducted in Finland, where it was found that SUD in the midst of a child's upbringing predisposes the child to abusive consumption of drugs and/or alcohol, both in the teen years and later as an adult (Kestilä et al., 2008).

5. Conclusion: Applications

In general, the results of this study can be used to improve and promote treatment for the whole family, taken as a unit, as well as for individual family members, and can help social professionals to better understand the effects of substance dependence on families, family systems, and public health in general.

The ability to apply the findings reported here is limited by the relatively small data size of the quantitative phase, which in turn limits the ability to extrapolate that most people who have lived with a family member affected by SUD will be found to suffer from depression, anxiety, and/or stress. Yet the data size does appear to be sufficiently large and well-defined to support the conclusion that the risk of being so affected is measurably greater in such families, given that the comparisons of participants' DASS responses are developed in statistically valid ways.

The mean scores in the tables above for each of the three DASS subscales indicate that the participants affected by SUD did in fact report greater depression, anxiety, and stress compared to the results of the general population study 'Health and Well-being of Icelanders'. Further research on the influence of growing up with a parent who has SUD, following studies by Tyrfingsson et al. (2010), Johnson and Stone (2009), Kestilä et al. (2008) and Itäpuisto (2005;2001) could reveal in greater detail how an upbringing associated with SUD can lead to depression in the younger years and to excessive consumption of alcohol and or other drugs in the adult years. Such additional research could be especially valuable when it comes to measuring and managing national health programmes and developing preventive measures.

The results of this study suggest a more immediate recommendation: *administering the DASS survey routinely to participants in the family group therapy programme could be done to more accurately measure that programme's effectiveness.* Doing so both at the beginning and at the end of the programme could help determine the degree to which that treatment can reduce depression, anxiety, and stress. Such a systematic evaluation could be a significant step toward an improved state of health and increased quality of life for many.

An especially interesting follow-up to this study would be to examine the relatives with SUD, using the same procedures developed for this study, to learn how they express their experiences and feelings. (By using the same procedures, the ability to compare results would be enhanced.) Learning the ways in which the relationship between the relative with SUD and the parents, children, siblings, or spouses are parallel in both directions, especially regarding negative feelings, could lead to more individualized family therapy that would support the recovery of both for the substance abuser and the family as whole.

Further research is needed on the effects of growing up in Iceland with a parent who has SUD, considering the discrepancy found in this study and others (Tyrfingsson et al. 2010; Kestilä et al., 2008). Such additional research could sharpen our understanding of the Icelandic experience and could help us understand whether an upbringing associated with SUD is correlated with depression among siblings and children in their younger years, and with consumption of alcohol and other drugs in their adult years. Such additional research could be especially valuable in efforts to measure and manage national health and to develop preventive measures.

This study's most important finding, by far, is that all family members tend to suffer when one family member is afflicted by SUD. It imperative that clinicians appreciate the need to treat the family as a whole, and to begin to do so as early as possible. To do so not only benefits the family member who suffers from SUD but can also serve as a preventative measure for the next generation.

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