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Intrafamilial conflict and emotional well-being: A population based study among Icelandic adolescents☆

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ABSTRACT

Objectives: During intrafamilial conflicts children are often innocent bystanders, caught in the crossfire. In such situations, they are at increased risk to become directly involved in abusive verbal behavior of the perpetrator, and exposed to being shouted or yelled at, threatened, rejected and even physically abused. The present study has two main objectives: (1) ascertain a national base rate of intrafamilial conflicts and physical violence at home among Icelandic adolescents; and (2) to investigate the association of witnessing and/or having been a part of intrafamilial conflict or physical violence at home with variables that relate to mental health and well-being.

Methods: The participants were 3,515 students, 14- and 15-year-old, in the national compulsory school system in Iceland. As a part of the 2003 ESPAD survey, each pupil was asked about experiences of severe verbal arguments and physical violence at home as well as their background, behaviors, and mental health assessed with the use of tested measurement scales such as the Symptom Distress Checklist 90 (SCL-90) and the Rosenberg Self-Esteem Scale.

Results: About 22% of the participants stated that they had witnessed a severe verbal argument between parents and 34% stated that they had been involved in a severe verbal argument with parents. This rate was slightly higher for girls compared to boys. All together 7% of adolescents had witnessed physical violence at home where an adult was involved and 6% of the participants stated that they had experiences of being involved in physical violence at home where an adult was involved. Witnessing or being involved in severe verbal arguments at home and/or witnessing or being involved in physical violence with an adult was significantly associated with greater levels of depression, anger, and anxiety, and negatively related with self-esteem ($p < 0.01$).

Conclusions: Many adolescents in Iceland witness severe parental verbal arguments or physical violence between adults in their homes and some are directly involved in such acts. It affects their long-term emotional and behavioral development and well-being.

Practice implications: Preventive measures have to be implemented at an early age and should include, but not be limited to, information on disciplining and upbringing of children and the negative impact of intrafamilial conflicts on the long-term health of their children. Due attention should be given to the health and well-being of children where such violence is known to occur.

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Introduction

Attitudes and definitions about violence in the lives of children have changed considerably over time, in particular during last few decades (Herrenkohl, 2005). Violence against children has for too long been at the periphery in the public mind, but increasingly scholars consider children to be the most criminally victimized in society (Finkelhor, 2008). Not only are they exposed to diverse forms of violence by adults and peers outside their homes but also within their homes by siblings, parents or other caregivers.

The nature of child abuse or maltreatment has been defined in four distinct groups; physical, psychological (or emotional), sexual abuse, and neglect (Leeb, Paulozzi, Melanson, Simon, & Arias, 2008; Runyan, Wattam, Ikeda, Hassan, & Ramiro, 2002). Compared to the improved understanding and recognition of the effects of physical and sexual abuse, emotional abuse has not received the same attention as a social problem (Egeland, 2009). It includes verbal hostility, taunting, belittling, and rejection and gives the impression to the child that it is unwanted and/or unloved and valued only to meet another's needs (Gilbert et al., 2009; Leeb et al., 2008). In violent homes, children may become directly involved in abusive verbal behavior of the perpetrator, being shouted or yelled at, threatened, rejected, and at times even physically abused (Schaefer, 1997). Verbal abuse is a term that is more difficult to define than physical battering since it does not leave physical evidence such as bruises (Evans, 1996).

Verbal hostility is closely linked to other forms of violence, such as intimate partner violence (IPV) (Butchart, Harvey, Mian, & Fürniss, 2006). Irrespective of the perpetrator, be it male or female, children are often caught in the crossfire as innocent bystanders, and being exposed to such acts is increasingly recognized as a specific type of child maltreatment (Gilbert et al., 2009). IPV occurs alongside other forms of violence within families and has been associated with children's internalizing and externalizing behaviors (MacDonald, Jouriles, Tart, & Minze, 2009).

It is difficult to estimate the number of children who are witnesses to domestic violence or experience psychological aggression. By using the parent-to-child version of the Conflict Tactics Scales (CTSPC) in the last year before the study a little more than 4/5 of American parents had shouted, yelled, or screamed at their children, about half had threatened to spank or hit them, and about 1/4 had swore or cursed at them (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). Children with such experiences may demonstrate good physical health but studies indicate greater levels of emotional and behavioral problems among those exposed to such acts compared to children who are not (Heise & Garcia-Moreno, 2002). Such experiences also adversely influence their social competence, social adjustment and school achievement (MacDonald et al., 2009).

Exposure to verbal abuse can leave scars that last. In a community-based longitudinal study of mothers and their children at the age of 5, 14, 15, and 22 years, maternal verbal abuse in childhood was positively associated with development of personality disorders, independent of the effects of other types of childhood maltreatment (Johnson et al., 2001). Childhood exposure to parental verbal aggression has also been associated, by itself, with moderate to large effects of measures of dissociation, limbic irritability (symptoms often encountered as phenomena of ictal temporal lobe epilepsy), depression, and anger-hostility (Teicher, Samson, Polcari, & McGreenery, 2006).

The impact of being exposed to IPV on physical health is still not well understood. In a recent systematic review, exposure to IPV was found to increase the likelihood for risk-taking behaviors during adolescence and adulthood (Bair-Merritt, Blackstone, & Feudtner, 2006). Insufficient evidence was found to conclude that IPV had an impact on breastfeeding rates, and the infant's likelihood of failure-to-thrive. In another study, Onyskiw (2002) found that Canadian children who had witnessed violent behavior in their families were less likely to report excellent health compared to non-witnesses and they were also less likely to use the health services (see Onyskiw, 2002).

Prior studies on Icelandic adolescents indicate that being exposed to family conflict can result in depression and anger, and increase the likelihood of delinquent acts (Sigfusdottir, Farkas, & Silver, 2004; Sigfusdottir & Silver, 2009). The present study has two main objectives: (1) ascertain a national base rate of intrafamilial conflicts and physical violence at home among Icelandic adolescents; and (2) to investigate the association of witnessing and/or having been a part of intrafamilial conflict or physical violence at home with variables relating to mental health and well-being, for example, anxiety, depression, anger, and self-esteem.

Methods

Participants

The participants in the study are part of the international European School Project on Alcohol and other Drugs (ESPAD) survey conducted in March 2003. In Iceland, 14- and 15-year-old students who attended the 9th and 10th grades in all compulsory schools in the country were invited to participate; in Iceland, compulsory education ends at the age of 15 (10th grade). The total number of respondents was 7,099 (52% males) or about 81% of the population in the 1987 and 1988 birth cohorts in Iceland; out of this group of participants, 3,515 (49.5%) adolescents (48.8% females) took part in the B-part of the study that included questions on their experience of intrafamilial conflicts, utilized in this analysis. All attending students responded to the questionnaire. Non-participants include those who were away from school on the day of the survey for whatever reason, for example sick or hospitalized. A background check on the missing values revealed no particular

pattern for non-participants in relation to demographic background or other variables. The sample is highly representative of adolescents in Iceland as all attend public schools irrespective of social background.

Data collection

The Icelandic version of the 2003 ESPAD survey was conducted by The Icelandic Centre for Social Research and Analysis (ICSRA) in collaboration with each of the national compulsory schools. Students were approached by teachers in class and asked to participate in a survey that was concerned with young people. The participants were told that their answers would be anonymous and confidential. Each student received the questionnaire in a sealed envelope. If he/she needed help with understanding any of the questions, the supervising individual (teacher or administrative assistant) came forward with an empty questionnaire for the student to point out which question he/she was having trouble with. This option for assistance is clearly outlined in the instructions to the student in the questionnaire. The questionnaire took about 1 hour to complete and upon completion students sealed them in blank envelopes.

The ISCRA has a long experience in conducting surveys on the health and well-being of adolescents in Iceland. The school-based surveys apply passive parental consent approach. Thus, prior to the day of the survey, information is sent to parents with information on the aims of the study, and they invited to inform the school if they do not approve the participation of their adolescent child. The surveys are carried out in accordance with the Icelandic Science Ethics Committee ethical code of conduct, as well as national law. The data collection procedures have been thoroughly pilot-tested for accuracy, understanding, and length. The issue of whether any differences occur in responses that are administered by teachers or administrative assistants has been analyzed (Bjarnason, 1995), and yielded no such differences. Further description of the data collection has been outlined elsewhere (Sigfusdottir, Thorlindsson, Kristjansson, Roe, & Allegrante, 2009).

Instruments

The B-part of the 2003 ESPAD questionnaire consisted of 83 questions with numerous items relating to the students' educational, family, and social background, leisure activities, substance use, anxiety, depression, anger, self-esteem, offending, negative life events, and chronic strain. In this paper we investigate the base rate of intrafamilial conflicts among Icelandic adolescents. We also examine if adolescents who have either witnessed or been involved in a severe parental verbal argument or physical violence in the home where an adult was involved differentiate on the psychological indicators from the 2003 ESPAD survey. All scaled variables have adequate levels of internal consistency.

Demographic background

Cohabitation is a multi-item variable where respondents are asked to indicate if their mother and father are cohabitating (yes/no). Parental education is constructed from 2 questions where respondents are asked to indicate their mother's and father's highest level of formal education. The answers are then coded on a scale of 1–10, increasing with higher education. Family financial status is a single item measure where respondents indicate the relative financial position of their family in relation to others on a scale from 1 to 7 with 1 being "much worse than others" and 7 being "much better than others."

Variables

Severe verbal argument: In order to measure if participants have either witnessed or been involved in severe verbal arguments at home, the participants were asked the following 2 questions: "Have you ever witnessed a severe verbal argument by your parents?" and "Have you ever been involved in a severe verbal argument with your parents?" Answers ranged from "yes during last 30 days," "yes during last 12 months," "yes more than 12 months ago," or "no." Answers were recoded to form a dummy coded variable with 1 = "yes, at some point in life," 0 = "No, never."

Physical violence at home: In regards to experiences of physical violence at home respondents were asked the following 2 questions: "Have you ever witnessed physical violence at home where an adult was involved?" and "Have you ever been involved in a physical violence at home where an adult was also involved?" Answers ranged from "yes during last 30 days," "yes during last 12 months," "yes more than 12 months ago," or "no." Answers were recoded to form a dummy coded variable with 1 = "yes, at some point in life," 0 = "No, never."

Depression (Derogatis, Lipman, & Covi, 1973): Ten depression items were used from the original Symptom Distress Checklist 90 (SCL-90) and these were rated on a 4-point frequency scale to indicate severity of symptoms (Sigfusdottir et al., 2004). Referring to their experience in the week prior to the survey, the following 10 statements are: "I was sad or had little interest in doing things," "I had little appetite," "I felt lonely," "I had sleeping problems," "I cried easily or wanted to cry," "I felt sad or blue," "I was not excited about doing things," "I was slow or had little energy," "The future seemed hopeless," "I thought about suicide." Answers ranged from 0 = "never," 1 = "seldom," 2 = "sometimes," to 3 = "often." These items were combined into a scale with a range from 0 to 30 (Cronbach's alpha = .88), and later transformed with natural logarithm to address a positive distributional skew observed in the data.

Anxiety (Derogatis et al., 1973): Four anxiety items were used from the original SCL-90 and these were rated on a 4-point frequency scale to indicate severity of symptoms (Sigfusdottir et al., 2004). The items are: How often during last week did

you experience any of the following: "Nervousness," "Sudden fear for no apparent reason," "You felt tense," and "You were sad or had little interest in doing things." These items were combined into a scale with a range from 0 to 12 (Cronbach's alpha = .85).

Anger: This is a 5-item measure designed to assess the severity of anger (Derogatis et al., 1973; Sigfusdottir et al., 2004). Each item refers to their experience in the week prior to the survey and was rated on a 4-point frequency scale as for anxiety and depression. The items are: "I was easily annoyed and irritated," "I experienced outbursts of anger that I could not control," "I wanted to break or damage things," "I got into an argument," and "I yelled at somebody or threw things." Answers ranged from 0 = "never," 1 = "seldom," 2 = "sometimes," to 3 = "often." These items were combined into a scale with a range from 0 to 15 (Cronbach's alpha = .84).

The Rosenberg Self-Esteem Scale (Rosenberg, 1965): This 10-item scale consists of positive and negative self-appraisal statements rated on a 4-point scale ranging from "strongly agree" to "strongly disagree." Scores range from 0 to 30 with higher scores reflecting low self-esteem. The items are: "I feel that I am worth at least as much as others," "I feel that I have number of good qualities," "All in all I am inclined to feel that I am a failure," "I am able to do things as well as most other people," "I feel I do not have much to be proud of," "I take a positive attitude towards myself," "On the whole I am satisfied with myself," "I wish I had more respect for myself," "At times I think I am no good at all," and "I certainly feel useless at times." These items were combined into a scale with a range from 0 to 30 (Cronbach's alpha = .89).

Statistical analysis

All data were scanned and prepared to files by ISCRA. Data manipulation was done in SPSS version 14.0. We began our analysis by looking at the prevalence of domestic violence experienced by adolescents in Iceland. Findings are revealed for those who have: (1) Witnessed a severe verbal argument by parents; (2) been involved in severe verbal arguments with parents; (3) witnessed a physical violence at home where an adult was involved; or (4) been involved in physical violence at home with an adult. We then ran a series of independent samples *t*-tests in order to examine if those who have experienced any of the above scored significantly different on the dependent measures depression, anxiety, anger, and self-esteem, from those who have not had such experiences.

The analysis includes a measure of "effect size" between groups exposed and not exposed to intrafamilial conflicts. The measurement of effect size was developed by Cohen (1988) and is generally accepted as a relative quantification of differences between independent groups. It is used to evaluate the size of an effect and is independent from the range of the measuring scales under scrutiny. Cohen (1988, 1992) defined effect size of .2 as small, of .5 as medium, and .8 and above as large. For our purposes in this study we used the pooled standard deviation method for the effect size calculations since equal variances cannot be assumed between the exposed and unexposed groups in each occurrence (Cohen, 1988, p. 44). Finally, we analyzed a matrix table with the Phi correlation coefficient for binary data and odds ratios (OR) with 95% confidence intervals (95% CI) to assess the internal relationship between the family conflict variables.

Results

Out of 3,515 participants, 1,799 are males (51.2%) and 1,716 are females. Table 1 reveals the demographic characteristics of the participants in relation to the variables under study. Adolescents who report no exposure to intrafamilial conflicts tend to live with cohabiting parents who have somewhat higher education and better financial means compared to adolescents who report severe exposure to such conflicts (been involved in physical violence with an adult in the home). Fig. 1 shows prevalence rates of their experience of 4 types of intrafamilial conflicts. The prevalence of having witnessed physical violence in the home where an adult was involved is 7.3%, and somewhat higher for girls compared to boys. This sex difference is also observed for lifetime experiences of other exposures except involvement in physical violence in the home, with rates being about 6% for both girls and boys.

The SCL-90 subscale for depressed mood has a span of 0–30 with a score closer to 30 indicating proneness to greater levels of depression. In our study, depression scores are significantly different among those who reported lifetime experiences of physical and verbal violence at home compared to those who did not (Table 2). Similar differences are found for lifetime experiences of the other intrafamilial conflict variables and adolescents' feelings of anger and anxiety. Mean scores of the

Table 1
Demographic characteristics of all intrafamilial violence variables and those reporting no such experience.

	Cohabitating parents (%)	Parental education, mean (*SD*)	Family financial status, mean (*SD*)
All participants	72.6	6.44 (2.45)	4.36 (1.06)
No intrafamilial violence	80.4	6.53 (2.44)	4.55 (1.00)
Witnessed severe verbal parental argument	61.8	6.26 (2.43)	4.17 (1.07)
Been involved in severe verbal parental argument	61.6	6.32 (2.45)	4.20 (1.07)
Witnessed adult physical violence in the home	51.2	6.31 (2.54)	4.03 (1.26)
Been involved in physical violence with an adult in the home	53.1	6.23 (2.67)	3.99 (1.28)

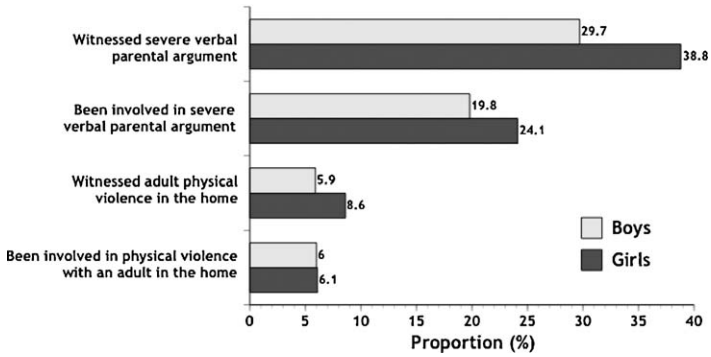

Fig. 1. Lifetime prevalence of those who have either witnessed or been involved in a severe argument with parents at home and those who have either witnessed or been involved in physical violence at home where an adult was involved.

Table 2
Symptoms of depression (logged) and lifetime experience of Icelandic adolescents of verbal and/or physical abuse at home.[a]

	Yes		No		*t*-Value	Effect size
	N	Mean score (*SD*)	*N*	Mean score (*SD*)		
Witnessed severe verbal parental argument	746	1.82 (0.93)	2637	1.33 (0.97)	−12.52***	0.51
Been involved in severe verbal parental argument	1148	1.84 (0.91)	2224	1.23 (0.95)	−18.24***	0.65
Witnessed adult physical violence in the home	243	1.97 (0.97))	3135	1.40 (0.97)	−8.86***	0.59
Been involved in physical violence with an adult in the home	206	2.11 (0.98)	3177	1.39 (0.97)	−10.31***	0.74

[a] The depression scale (0–30) is based on ten items from the original Symptom Distress Checklist, rated on a four-point frequency scale to indicate severity of symptoms (Derogatis et al., 1973). Due to skew in the data the distribution of the scale has been transformed with natural logarithm prior to these calculations.
*** $p < 0.001$, all tests are two-tailed.

adolescents are generally higher for each level of increased severity of the exposure; for symptoms of anger the mean scores increase from 4.76 (*SD* 3.84) to 6.56 (*SD* 4.49) and for anxiety from 4.17 (*SD* 3.04) to 5.04 (*SD* 3.51). As to be expected for the Rosenberg Self-Esteem Scale, the mean scores are gradually lower with increased severity of exposure and range from 17.65 (*SD* 6.68) to 15.28 (*SD* 6.73). In all cases the differences are statistically significant ($p < 0.01$).

Fig. 2 compares the effect sizes of the 4 different exposure groups of intrafamilial conflicts in Iceland. With increased severity of exposure of witnessing or being involved in such conflicts, the impact is higher on the 4 different dependent measures on the long-term health and well-being of the respondents, suggesting an impact gradient, and most significantly so regarding anger.

Young people who during their lifetime have experience in witnessing either a severe verbal argument by parents or physical violence between adults in their homes, or who are directly involved in such events, are often one and the same

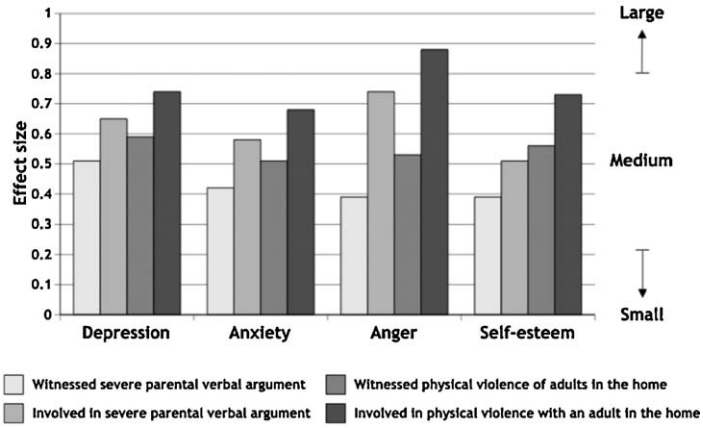

Fig. 2. Effect sizes on the long-term health and well-being of Icelandic adolescents between groups exposed and not exposed to intrafamilial conflicts.

individuals (Table 3). All Phi correlation coefficients are statistically significant at the 99% level. Within each binary coded family conflict variable, the adolescents score significantly higher with increased severity of exposure. The highest correlation in the matrix is between witnessing physical violence at home where an adult was involved and being directly involved in such violence (Phi = .55). Thus, those who have witnessed physical violence taking place in the home are more than 45 times more likely (95% CI 32.61–64.16) to have been involved in such an episode compared to those who do not report such experiences. As with the Phi correlation coefficient this is by far the strongest relationship discovered between the binary family conflict variables.

Discussion

In this paper we attempt to estimate the prevalence of intrafamilial conflict and physical violence in the homes of 14–15-year-old Icelandic adolescents and how it relates to emotional well-being. To sum up, between 6 and 9% of the adolescents had witnessed physical violence at home where an adult was involved and this proportion was slightly higher for girls than boys. Also, about 6% of both adolescent boys and girls had been directly involved in physical violence at home where an adult was involved, sexes equal. Of greatest concern, observed effect sizes of reported experiences were higher regarding symptoms of depression, anxiety, anger, as well as lower self-esteem when compared with adolescents who did not report any such experiences, and most significantly so regarding anger.

The 6–9% observed prevalence rates for 14–15-year-old Icelandic adolescents of witnessing violent acts between adults in their homes are based on self-reports. This prevalence is similar to findings in Sweden. In a survey of 10, 12, and 15 years old Swedish children, 7–8% reported they knew of 1 or more such episodes in their homes and about 3/4 of these children had themselves witnessed such events (Janson, Langberg, & Svensson, 2007). Significant differences were found for families with separated parents, for older children and those with low-income. We observe similar tendencies in our study. In a study from USA, about 1/4 of an adult population reported to have witnessed IPV during their first 18 years of life (Dong et al., 2004). For those with such experiences, the likelihood of having experienced other adverse childhood events increased compared with those not exposed. How exposure to IPV is defined can however vary between different studies, and thus the prevalence rates. In a review on IPV and by analyzing different data, Carlson (2000) estimated that at least 10–20% of children in the USA are annually exposed to IPV with as many as 1/3 exposed to IPV at some point during childhood or adolescence (see Carlson, 2000). In a recent study, specifically designed to estimate the number of children who live in partner-violent families, it was found that about 13% of couples with children experienced violence in their relationship, and about 5% experienced severe violence (MacDonald, Jouriles, Ramisetty-Mikler, Caetano, & Green, 2006). These estimates from the USA are somewhat higher than those reported from Sweden (Janson et al., 2007), and what we find in our study.

The results of our study need to be put into the context of cultural ideas regarding upbringing of children in Iceland. A review of the history of domestic violence against children in Iceland indicates that violent acts have until recently been prevalent and considered as normal part of upbringing of children (Einarsdóttir, Ólafsdóttir, & Gunnlaugsson, 2004). According to a law from 1746, it was the lawful duty of parents to punish children severely if something was not as it should be. It was first in 1932 that this law ceased to exist, and new ideas of child rearing gained ground. Few studies have attempted to describe and estimate prevalence of domestic violence in Iceland (Ólafsdóttir, Júlíusdóttir, & Benediktsdóttir, 1982; Dóms- og kirkjumálaráduneytid, 1997), but the plight of children in such situations was not the main focus of these studies. Data from 1994 shows that about 7% of Icelandic families found occasional physical punishment of children to be acceptable (Júlíusdóttir, 1994). In a recent survey of more than 1,100 Icelandic school children, about 15% of the 10-year-old and 20% of the 14-year-old children knew someone who had been a victim of domestic violence, and no sex differences were noted (Kristjánsdóttir & Hardardóttir, 2008). Our study adds to this increasing knowledge base on experiences of domestic violence by Icelandic children. To sum up, there are clear indications that a considerable number of Icelandic children are either witnesses or victims of verbal and/or physical violence in their homes. The violence was perpetrated by an adult in the home that probably was the caretaker of the child, parent or cohabiting partner to the parent, in most cases. Our study unfolds clear indications that an experience of such events greatly influences their emotional health and well-being.

While knowledge on battered women has rapidly been growing, it is only since the 1980s that the experience of children in such situations has gained attention in the research literature (Fantuzzo & Mohr, 1999). In a study on the impact of children's witnessing domestic violence, Edleson (1999) reviewed in total 31 studies. He found that children's problems could broadly be divided into (a) behavioral and emotional functioning, and (b) cognitive functioning and attitudes. A third category cut across the 2 with associated long-term development problems. In our study, adolescents scored higher on the outcome variables if they had been involved in severe verbal conflicts with their parents, or had witnessed parents in severe verbal arguments. Similar results are found if they had witnessed physical violence between adults in the home or been inflicted in such acts themselves. Thus, these adolescents scored higher with regard to symptoms of depression, anger, anxiety, and had lower self-esteem compared to peers not exposed or involved in such situations. With regard to depression (Table 2), official cut-off scores vary according to the utility of the SCL-90 subscales between studies. In our study we focus on the relative differences in mean scores and effect sizes between the unexposed and exposed groups rather than clinical cut-off points.

Table 3
Assessment of the relationship between family conflict binary variables. Phi correlation matrix and odds ratios with 95% confidence intervals.

	Witnessed severe verbal parental argument	Been involved in severe verbal parental argument	Witnessed adult physical violence in the home	Been involved in physical violence with an adult in the home
Witnessed severe verbal parental argument	1			
Been involved in severe verbal parental argument	.35*** OR = 5.47 95% CI: 4.60–6.51	1		
Witnessed adult physical violence in the home	.32*** OR = 10.44 95% CI: 7.83–13.91	.20*** OR = 4.52 95% CI: 3.42–5.96	1	
Been involved in physical violence with an adult in the home	.24*** OR = 6.47 95% CI: 4.83–8.67	.25*** OR = 9.75 95% CI: 6.80–13.97	.55*** OR = 45.74 95% CI: 32.61–64.16	1

*** $p < 0.001$, all tests are two-tailed.

The predominantly large effect sizes in the differences between the group exposed to intrafamilial conflicts and adolescents who did not report such experiences underlines the potentially harmful psychological and behavioral consequences of these experiences on the health of adolescents (Fig. 2). This is observed even in instances where the adolescents themselves are only witnesses and not directly involved in such events. The reported impact is also brought to light as a gradient with an increase in effect size following more severe conflicts. Longitudinal studies give support to this observed impact on the future health of children. This indicates that verbal abuse brings an increased risk of personality disorders (Johnson et al., 2001), and depression and anger (Teicher et al., 2006). We have no information on the physical health of the children in this study group but this aspect needs to be scrutinized further in future studies.

IPV is recently being included as a separate entity in the typology of child maltreatment or abuse (Butchart et al., 2006; Gilbert et al., 2009). Inclusion of IPV reflects increased awareness and understanding of the emotional impact it may have on children to be caught in the crossfire of violent adult events in their home, as well as to overhear such episodes (Edleson, 1999). In addition, there is evidence that mothers who are the victims of physical abuse by an intimate partner are subsequently identified as perpetrators of child maltreatment (Casanueva, Martin, & Runyan, 2009). Our study brings support to the negative impact such experiences may have on the long-term well-being of children. The strongest relationship is found between witnessing violence in the home and direct involvement in such acts, as evidenced by a Phi coefficient of 0.55 and an odds ratio of over 45 (Table 3). These results have important implications for those who work with families plagued by IPV. Due attention should be given to the children in the family, for example by interviewing them directly or assessing if the parents understand the potentially negative impact such behavior may have on their children (Hegarty, Taft, & Feder, 2008). For caregivers, it is also important to understand that such behavior may be associated with number of other adverse childhood experiences, be it maltreatment or household dysfunction, that negatively impacts the psychological health and well-being of the child (Flaherty et al., 2009).

In our study, just over 1/4 of the adolescents reported to have witnessed severe verbal parental arguments, and the rate being somewhat higher for girls compared to boys (Fig. 1). Similar sex difference was found for those who reported direct involvement in severe verbal argument with parents. This observed gender difference signals important questions for further research: (1) Is there an actual gender difference among adolescents in prevalence of witnessing or having severe verbal arguments with parents or is it possible that adolescent girls are more likely than boys to interpret particular interactions as severe verbal arguments; (2) Is it possible that parents, which research shows are on average more concerned about adolescent girls than boys (Kim, 2001; Svensson, 2003), are more likely to have severe verbal arguments with girls rather than boys because of fear for their well-being? These gender differences disappear when it regards adolescents' experiences of physical violence between adults in their home or being themselves directly involved in physical violence with an adult.

Limitations

Several limitations to our study merit consideration. First, the source of data is part of the international 2003 ESPAD survey that enquires mainly about alcohol and drug usage among adolescents. Our measures are therefore a byproduct in a study that focuses specifically on other issues than intrafamilial conflicts. This limits our possibilities to address more specifically certain aspects of such conflicts. Second, the study is based on self-reported data. It can be a problem that the adolescents are reporting on both involvement and witnessing domestic conflict in their home, therefore acting as a third-party in reporting about others. However, the disappearance of gender difference with increased severity of observed behavior brings credibility to our results; experience of parental violence in the home cannot be expected to be dependent on the sex of the adolescent in the home. On the other hand, despite lack of valid measurement scales regarding violence exposures of children (Thompson et al., 2007), it is important to give adolescents opportunities to convey their own experiences that may not be in concordance with those reported by their parents. Third, the study findings are correlational and not causal in nature since our analyses are based on a cross-sectional design, rendering inferences to causality impossible. Four, in the phrasing of the specific physical violence questions, the word "adult" was chosen rather than the more specific word "parent." Yet, considering the age of the respondents and that the events are reported to have occurred in their homes the most likely perpetrators are the caretakers of the children, for example, one or both of the parents. Finally, we rely solely on bivariate associations in our analyses. Therefore, it is possible that the observed differences between the scaled measures we present here are discovered because of the absence of some confounding variables. Yet, each of our family conflict variables is an independent measure (exposure/no exposure). What is not mutually exclusive is that those who report having experienced severe verbal arguments by the parents may also have experienced involvement in such arguments (another question) or indeed witnessing physical violence in the home were an adult was involved (Table 3).

Implications

Popular ideas in Iceland on the upbringing and disciplining of children and domestic violence have gradually changed over time (Einarsdóttir et al., 2004). Many Icelandic children also know and understand the term "domestic violence" (Kristjánsdóttir & Hardardóttir, 2008). Our study adds another piece of information to the issue of child maltreatment and abuse in Iceland that may be of relevance elsewhere. The results, based on the use of validated measuring scales with multiple indicators on emotional well-being, unfold significant associations that merit due consideration. All those involved with children need to be aware of the associated risks of intrafamilial conflicts on the long-term health of children, not

only that of direct physical abuse but also being a witness to intrafamilial conflicts and to be caught in the crossfire. The legal framework needs to be continuously refined in tune with current definitions on child maltreatment and abuse, and the UN convention on the rights of the child (Reading et al., 2009). Home visits at the birth of a child, a routine procedure in preventive child health services in Iceland with near universal participation, offer unique opportunities for preventive actions if properly performed (MacMillan et al., 2009). This includes information on upbringing and disciplining of children as well as information on the negative impact of intrafamilial conflicts on long-term child health. More research is needed in Iceland to improve understanding of the impact of IPV and how it may influence the long-term health of young people. We aim to collect quantitative data that specifically address violence and its different manifestations, as well as qualitative data on such experiences.

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