

Risk factors for suicide attempts in the total population of Faroese eighth graders

Tóra Petersen^{1,2*} & Ask Elklit^{1,3}

¹National Centre for Psychotraumatology, University of Southern Denmark, Odense, Denmark

²The National Hospital of the Faroe Islands, Torshavn, Faroe Islands

³University of Ulster

*Corresponding author: tpetersen@health.sdu.dk

Abstract

Objectives: Suicide is still one of the leading causes of youth mortality, and amongst others previous suicide attempts have been found to be one of the strongest risk factors for suicide. The objective of this study is to examine risk factors of suicide attempts in a total population of Faroese adolescents. It is expected that anxious attachment, high scores on negative affectivity and low scores on past and present social support were correlated to an increased risk of life-time suicide attempts in both female and male adolescents.

Method: Analyses were conducted based on data from The Faroese Adolescent Trauma Study, a self-report questionnaire survey including a total population of Faroese eighth graders ($N = 687$; 85 % response rate, mean age 14.2 years, $SD = 2.1$). The questionnaire included The Revised Adult Attachment Scale (RAAS), The Trauma Symptom Checklist (TSC), and The Crisis Support Scale (CSS).

Results: In the total population 9.9 % ($N = 68$) of the participants reported life-time suicide attempt; of those 28 % were boys and 72 % were girls. In line with the expectations, the initial comparison showed that adolescents reporting life-time suicide attempt had significantly higher scores on attachment anxiety and negative affectivity, and had significantly lower scores on attachment closeness, and both past and present social support. Further analyses stratified on gender, however, revealed unexpected results, as a high score on negative affectivity only was a significant risk factor for life-time suicide attempt among the girls, and high score on attachment closeness only was a significant protective factor of life-time suicide attempt among the boys.

Conclusions: This study provides important data about the role of attachment, negative affectivity, and social support in suicide attempts in a total population of Faroese adolescents. Moreover the results show the necessity of taking gender into account in research of risk and protective factors of suicide attempts, and when establishing arrangements to prevent and treat suicide attempts in adolescents.

Keywords: Risk factors, suicide attempt, negative affectivity, adolescents, social support

Introduction

Although the number of completed youth suicides has declined during recent years, suicide is still one of the leading causes of youth mortality (1,2). Motivated by this fact and by an identified growth in suicide attempts among youths, the number of studies of the prevalence and etiology of suicide has risen (3). Although the majority of suicide attempts are of low lethality (4), previous suicide attempts have been shown to be one of the strongest predictors of future attempts and completions (5).

A suicide attempt is, by nature, very distressing. Being in a state of mind in which a suicide attempt is part of the behavioral repertoire may prevent an adolescent from living a healthy life and lead to maladaptive trajectories that emerge during an important developmental period of life. Therefore, the prevention and treatment of suicide and suicide attempts are of utmost importance, and studies that have increased the knowledge of related risk factors have yielded significant contributions to this field.

Epidemiologic studies have demonstrated a range of 3% to 15% for lifetime rates of suicide attempts

(6) when national, ethnic, and gender differences in the variance of the prevalence have been identified (6,7).

Contrary to this, we found no significant national differences in suicide attempt levels among adolescents examined with the use of the same questionnaire in three Scandinavian and European probability samples and one total population sample (8). Of the 1466 adolescents who were 14 and 15 years, 125 reported one or more suicide attempts, and the prevalence ranged from 6% (Denmark and Lithuania) to 10% in Iceland and the Faroe Islands.

The purpose of this article is to contribute to the extant research of risk factors for suicide attempts based on data from the total population of Faroese eighth graders who participated in The Faroese Adolescent Trauma Study.

Adolescence is frequently described as a vulnerable period that is characterized by intrapersonal and interpersonal changes (9,10), and numerous studies have shown a correlation between depression and suicide (11). In an attempt to identify risk factors for adolescent suicide attempts, the literature has also reported other variables, such as female gender, psychopathology, low tolerance for stress, and frustration and loneliness (10-20). The majority of studies of suicide attempts, however, are based on small or convenience samples; only very few are based on national surveys (21). Although research into the risk factors of suicide has increased, too many studies have focused solely on psychopathology (10), thereby underlining the importance of applying multifaceted approaches (21). A more complex and multivariate distinction between the triggers of suicidal behavior and their underlying causes has been suggested (10). Accordingly, studies have identified strained relationships with parents and difficult family histories as risk factors for suicide and suicide attempt among adolescents (10).

One possible underlying mechanism for explaining these correlations may be attachment. Attachment theory is the joint work of John Bowlby and Mary Ainsworth, and it was originally developed to describe attachment patterns between caregiver and child (22-24). The original theory suggests that early in life, through interactions with a caregiver, children develop internal working models of themselves and of others that characterize how threats are perceived, how stress is responded to, and how emotions are regulated (25-27). Two attachment dimensions have been agreed upon: the anxiety dimension and the avoidance dimension. The anxiety dimension is described as a positive or negative view of the self that indicates how one sees others' availability and how one requires the positive regard of others. The

avoidance dimension is described as a positive or negative view of others that indicates how comfortable one is with closeness to and dependence on others. These attachment patterns are thought to be relatively stable throughout life (27), although some studies have shown that interpersonal trauma may have a negative impact on attachment (28). Recently, attachment studies have taken a broader perspective, and studies of adults (29) and adolescents (30) have shown attachment to be related to both psychological and social functioning. There has been increased focus on obtaining empirical data that contribute to a better understanding of attachment's relevance to the development of psychopathology (31-33). Nevertheless, more research still is needed.

Studies of the relationship between suicide attempts and attachment as a risk factor are scarce (29), although some results suggest that anxious attachment may be an underlying risk factor for suicidal behavior in depressed individuals. A study of 524 adult patients with major depression (mean age, 37 years; standard deviation, 13.3 years) showed that anxious attachment was a strong risk factor for suicidal behavior (29), whereas other studies that include older participants identified anxious and avoidant attachment styles to be risk factors for suicide attempts later in life (34,35). Although literature regarding attachment in general among adolescents is limited (36), the importance of studying the relationship between attachment and suicide attempts among adolescents is evident. Adam and colleagues (37) studied adolescents and found that those with high scores for suicidal behavior were significantly more likely to be characterized as having a preoccupied or unresolved attachment style. Limited studies have suggested a significant relationship between insecure attachment style, interpersonal problems, and psychopathology in adolescents. However, the results have been somewhat divergent (30).

Although most attachment research focuses on childhood or adult attachment, attachment during adolescence has been shown to have a central motivational role (31). The cognitive development that occurs during adolescence, the acquiring of new reflective capacities and the movement toward formal operational thinking opens up the opportunity for a revision and consolidation of the internal working models (31). A greater understanding of adolescent attachment, psychopathology, and suicidal behavior may contribute to knowledge-based early intervention and prevention in this area.

Aim of the study

The aim of this study is to examine possible underlying risk factors for suicide attempts in a total population of Faroese adolescents. The chosen variables are attachment, negative affectivity, and past and present social support. It is expected that anxious attachment, high scores for negative affectivity, and low scores for social support correlate with an increased risk of lifetime suicide attempts in both girls and boys.

Method*Procedure*

The data used in this article were obtained from the self-report questionnaire survey used in the The Faroese Adolescent Trauma Study, which was conducted in 2006 (8). The Faroe Islands are in the North Atlantic, and they consist of 18 islands inhabited by approximately 48,000 people (38). In the Faroe Islands, education is compulsory until the ninth grade. In 2006, the public school system was the only teaching offered in the country and therefore included all Faroese adolescents. All 20 schools that were teaching eighth graders were contacted, and all but one (with only one eighth-grade student) agreed to participate. The schools were situated on the six largest islands. Letters that explained the survey, the possibility of not participating, and the anonymity of the participants were sent to the headmasters, who further distributed these letters to the students and their parents. On the day of the data collection, the researchers went out to the schools to ensure that the students once again received appropriate instructions. The students filled out the questionnaires in their classrooms, and the researchers were present to ensure confidentiality and to seal the questionnaires in a box in each classroom. The study was approved by the Faroese Data Protection Agency and the Faroese Ministry of Education (8,39).

Measures

The total questionnaire consisted of self-report measurements that had previously been used to measure various psychological and social variables. The measurements were translated from English to the Faroese language, and native Faroese clinical psychologists working in the Faroe Islands conducted the translation. Back-translation was also conducted and led to minor corrections. The first part of the questionnaire contained questions about gender, age, and living arrangements (i.e., living with both parents, one parent, or others, such as grandparents or in an institution).

Lifetime suicide attempt rate was measured with one item: "Have you had a suicide attempt?" It therefore was left to each adolescent to define whether his or her experience could be categorized as a suicide attempt. However, the authors use the definition described by Silverman and colleagues (40): "Suicide attempt is defined as a self-inflicted, potentially injurious behavior with a nonfatal outcome for which there is evidence (either explicit or implicit) of intent to die."

The Revised Adult Attachment Scale (41,42) is an 18-item self-report scale based on attachment theories (23,25) that measures an individual's attachment and closeness to significant others. The items are scored on a five-point Likert scale that ranges from "Not at all characteristic of me" (this was scored as a 1) to "Very characteristic of me" (this was scored as a 5). The attachment anxiety subscale consisted of six items (Cronbach's alpha = 0.82). The attachment closeness and dependency subscale consisted of 12 items (Cronbach's alpha = <0.45). However, after excluding item number 6 ("I am afraid if people come too close to me") and item number 18 ("I am sure that people are there when I need them"), the reliability became moderate (43) (Cronbach's alpha = 0.65).

The Trauma Symptom Checklist (44) is a self-report scale that measures general distress symptoms on a four-point Likert scale, with 1 indicating that a statement is never true and 4 indicating that it is true almost all the time. The negative affectivity and somatization subscales have been identified as having good internal consistency, reliability, and factorial and criterion validity (45). *Negative affectivity* refers to a general tendency to have negative view of and reactions toward oneself and the surrounding environment. The subscale that measures negative affectivity consists of nine items such as "Do you have a bad appetite or have you lost weight?" "Do you feel sad?" and "Do you have feelings of inferiority?" The internal consistency of this checklist as measured by Cronbach's alpha was 0.78.

The Crisis Support Scale (46), which involves a seven-point Likert scale, is a self-report scale that was used to measure social support. The scale has seven items, including the following: "Are you satisfied with the support you received?" "Whenever you want to talk, how often is someone willing to listen?" and "Are people helpful in a practical sort of way?" The participants were asked to make self-reports using statements that ranged "Not at all characteristic of me" (this was scored as a 1) to "Very characteristic of me" (this was scored as a 7). The mean sum score for the study population was 32.00 (standard deviation, 7.07) and the Cronbach's alpha was moderate (0.71) (43). The Crisis Support

Scale has been used in trauma studies (47), and it has been demonstrated to have good internal consistency and discriminatory power (48).

Participants

All but two pupils were permitted by their parents to participate in the study, and the response rate was 85% (N = 687). The remaining 15% of students were not in school on the day of the data collection. The mean age was 14.2 years (standard deviation, 2.1 years), and the gender distribution was 320 boys (46.6%) and 353 girls (51.4%). Fourteen adolescents (2%) did not state their gender. Six hundred and seventy-nine participants (99%) stated with whom they lived. The majority lived with both of their parents (N = 562, 82%), and a minority lived with one parent (N = 111, 16%). One percent (N = 6) had other arrangements, such as living with grandparents or in a children's home, and 1% (N = 8) did not state where they lived.

Analyses

Initially, one-way analyses of variance were conducted to compare the mean scores of the variables for boys versus girls. To look more closely at the variable scores among those adolescents reporting lifetime suicide attempts, independent *t*-tests were conducted on the psychological and social variables to compare boys and girls. Binary logistic regression analyses were conducted with lifetime suicide attempt as the dependent variable, and finally the model was stratified for gender. All analyses were conducted with the use of SPSS software (version 21). Only subjects who had answered all the questions in the separate questionnaires were included in the analyses, so the values of N vary and are stated in every table.

Results

The one-way analyses of variance (Table 1) conducted on all subjects showed a significant difference between boys and girls with regard to attachment anxiety scores and negative affectivity, with the girls reporting significantly higher scores. The analyses also revealed that the girls reported significantly higher scores for present and past social support.

Suicide attempts

Of the participants in this study, 9.9% (N = 68) reported lifetime suicide attempts. Of those respondents, 27.9% (N = 19) were boys and 72.1% (N = 49) were girls.

Only those who answered all of the questions in the separate questionnaires were included in further analyses; these additional analyses were conducted

on 52 subjects. The subjects composed 76.5% of all subjects reporting lifetime suicide attempts; 26.9% (N = 14) of those 52 were boys, and 73.1% (N = 38) were girls. Initial analysis (not shown) revealed that the adolescents who reported lifetime suicide attempts had significantly higher scores in the areas of attachment anxiety and negative affectivity and significantly lower scores in the areas of attachment closeness/dependency and past and present social support compared with adolescents who did not report lifetime suicide attempts. To study possible gender differences in these findings, independent *t*-tests of the psychological and social variable mean scores were conducted after separating boys and girls with and without lifetime suicide attempts (Table 2). These analyses revealed interesting gender differences: no significant differences were found in the mean scores of attachment anxiety and present social support among the boys with and without lifetime suicide attempts, whereas the girls with lifetime suicide attempts had significantly higher mean scores in the area of attachment anxiety and significantly lower mean scores in the area of present social support.

TABLE 1 Gender differences for a number of study factors

Variable	Gender (N)	Mean	SD	F value	<i>p</i> value
Age	Boys (320)	14.3	1.3	0.26	.610
	Girls (353)	14.4	1.2		
Attachment anxiety	Boys (320)	14.2	6.2	27.45	.0005
	Girls (353)	16.7	6.1		
Attachment closeness/dependency	Boys (285)	39.9	5.3	0.73	.390
	Girls (321)	39.6	5.3		
Negative affectivity	Boys (274)	21.2	5.7	66.24	.0005
	Girls (296)	25.5	6.9		
Past social support	Boys (239)	30.9	7.3	6.06	.010
	Girls (276)	32.5	7.4		
Present social support	Boys (249)	31.2	7.0	7.54	.006
	Girls (269)	32.9	7.0		

Note. SD = Standard Deviation

TABLE 2 Comparisons of participants with and without suicide attempts

Variable	Gender	Suicide attempt	N*	Mean score (SD)	F value	<i>p</i> value
Attachment anxiety	Boys	No	301	14.2 (6.0)	-0.4	.677
		Yes	19	14.8 (8.8)		
	Girls	No	304	16.2 (5.8)		
		Yes	49	19.5 (6.8)		
Attachment closeness/dependency	Boys	No	273	40.2 (5.1)	4.0	.005
		Yes	15	34.7 (5.8)		
	Girls	No	280	39.9 (5.1)		
		Yes	44	37.1 (5.5)		
Negative affectivity	Boys	No	301	19.8 (6.8)	-3.6	.0005
		Yes	19	25.7 (8.7)		
	Girls	No	304	23.3 (7.0)		
		Yes	49	32.1 (7.8)		
Past social support	Boys	No	221	31.2 (7.2)	2.4	.019
		Yes	18	27.0 (8.6)		
	Girls	No	232	33.3 (7.0)		
		Yes	44	28.5 (8.2)		
Present social support	Boys	No	233	31.4 (6.8)	1.9	.058
		Yes	18	28.1 (9.5)		
	Girls	No	231	33.6 (6.5)		
		Yes	43	28.4 (8.0)		

*Only those who filled out all questions in the distinct questionnaires are included
Note. SD = Standard Deviation

To analyze the contribution of each variable to the risk of lifetime suicide attempts, we conducted binary regression analyses with suicide attempts as the dependent variable (Table 3). Seven variables included in the model explained 29% of the variance: gender, age, attachment anxiety, attachment closeness/dependency, negative affectivity, and past and present social support. Higher age and higher attachment closeness/dependency scores had a weak protective effect on the likelihood of a suicide attempt, whereas a high score for negative affectivity was a risk factor for a suicide attempt. The other variables were not significant, although past social support had a weak protective effect that came close to significant level ($p = .06$).

TABLE 3. Binary logistic regressions of suicide attempts

Model summary: Nagelkerke $R^2 = 0.29$; $p < .0005$; $N = 476$; reported suicide attempts, $N = 52$

Variables	Exp (B)	p value	95% CI
Gender (1 = boy; 2 = girl)	0.60	.190	[0.28, 1.28]
Age	0.81	.020	[0.67, 0.96]
Attachment anxiety	1.02	.660	[0.94, 1.10]
Attachment closeness/dependency	0.93	.040	[0.86, 1.00]
Negative affectivity	1.12	.0005	[1.06, 1.18]
Past social support	0.95	.060	[0.90, 1.00]
Present social support	1.01	.790	[0.95, 1.07]

Note. CI = confidence interval

The interaction analyses shown in Table 4 were conducted with the use of past suicide attempts as the dependent variable. These analyses showed significant interactions between attachment closeness/dependency and gender and between negative affectivity and gender.

TABLE 4. Interaction analysis with gender

Model summary: Nagelkerke $R^2 = 0.34$; $p < .0005$; $N = 476$; reported suicide attempts, $N = 52$

Variables	Exp (B)	p value	95% CI
Attachment anxiety * gender	0.95	.550	[0.80, 1.13]
Attachment closeness/dependency * gender	1.22	.020	[1.04, 1.45]
Negative affectivity * gender	1.15	.020	[1.02, 1.29]
Past social support * gender	0.89	.090	[0.77, 1.02]
Present social support * gender	1.09	.220	[0.95, 1.25]

Binary logistic regression analyses were conducted for boys and girls separately, again with the use of a past suicide attempt as the dependent variable. The results presented in Table 5 show that a high score for attachment closeness/dependency was a significant protective factor among boys (but not among girls) and that negative affectivity was a significant risk factor for girls (but not boys).

TABLE 5. Binary logistic regressions of suicide attempts by gender

Boys
Model summary: Nagelkerke $R^2 = 0.16$; $p < .0005$; reported suicide attempts, $N = 19$

Variables	Exp (B)	p value	95% CI
Attachment closeness/dependency	0.84	.005	[0.75, 0.94]
Negative affectivity	1.04	.290	[0.96, 1.13]

Girls
Model summary: Nagelkerke $R^2 = 0.30$; $p < 0.0005$; reported suicide attempts, $N = 49$

Variables	Exp (B)	p value	95% CI
Attachment closeness/dependency	0.96	.370	[0.90, 1.04]
Negative affectivity	1.19	.0005	[1.12, 1.26]

Note. CI = confidence interval

Discussion

The prevalence of suicide attempts among the Faroese adolescents in the present study is very much in line with what Weihe (49) found in three total population studies of Faroese ninth graders conducted in 2003, 2007 and 2011, in which the prevalence of suicide attempts was approximately 9% to 12%. Despite the fact that the importance of implementing multifaceted approaches to reduce suicidal behavior has been underlined, studies of risk factors for suicide attempts and completed suicides have provided conflicting results. The relationship between risk factors and suicide thus has proven to be complex (21,50). The aim of the present study was to examine possible underlying risk factors for suicide attempts in the total population of Faroese adolescent boys and girls. We included psychological attachment; although this has been only sparsely described in the literature, it may be an important variable that contributes to adolescent suicide. Alternatively, gender differences with regard to the incidence and prevalence of suicidal behavior have been well described in the literature, although the results have been diverse. As compared with the present study, in which 72% of the subjects reporting lifetime suicide attempts were girls and 28% were boys, other studies conducted in the United States and Canada have shown rates of suicide attempts to be two to three times higher for adolescent girls as compared with adolescent boys (4,6,51). In fact, studies of older and mainly Caucasian adolescents (mean age, 19.6 years) have found that boys report significantly more suicide-related behaviors as compared with girls (52). Age was found to have an independent protective effect on the risk of lifetime suicide attempt in the present study, although this is in opposition with other studies, which have shown suicidal behavior to be more prevalent among older adolescents and young adults (53). However, the age span in the present population is very small as compared with other studies, which have included populations with an

age span of five to ten years. This may indicate that the protective effect of older age found in the present study would vanish if the age group had been broader.

Psychiatric disorders and especially depression have been shown to be among the strongest risk factors for suicide among youth of both genders (14). Other studies of adolescents have demonstrated school and parent connectedness, good peer relations, and high school functioning to be protective factors against suicide (54). This is somewhat in line with the present study, in which the initial analyses demonstrated that the adolescents reporting lifetime suicide attempts had higher scores for negative affectivity and lower scores for both past and present social support as compared with those without lifetime suicide attempts. Although negative affectivity does not equal depression, many of the questions in the subscale that measures negative affectivity encompass symptoms of depression as defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (see the Measures section of this article). The initial analyses in the present study also found that adolescents with suicide attempts had significantly higher scores for attachment anxiety and significantly lower scores for attachment closeness/dependency. This is comparable with previous studies, which showed that a low tolerance for stress and frustration, strained relationships with parents, and difficult family histories—all of which are correlated with insecure attachment—are risk factors for suicide and suicide attempts among adolescents (10). However, when further analyses were conducted in the present study and included all of the variables in one regression analysis, gender, attachment anxiety, and past and present social support lost their significant contributions to the rate of suicide attempts. Furthermore, stratification on the basis of gender revealed somewhat unexpected gender differences: a high score in the area of attachment closeness/dependency was only a protective variable among boys, whereas a high score in the area of negative affectivity was only a risk factor among girls. The absolute mean scores for attachment closeness/dependency among boys and girls in the present study were similar, whereas the absolute mean scores for negative affectivity were significantly higher among girls as compared with boys. The finding that high scores in the area of attachment closeness/dependency only had a protective effect against the risk of suicide attempts among boys is somewhat contrary to the results of a pilot study in a clinical population of 35 adolescents (50). However, contrary the present study, this study did not examine gender as a possible contributing

variable, which may explain the divergent results. Wright and colleagues (50) identified three groups: 1) a clinical group with high suicide risk ($N = 10$; mean age, 16.9 years), in which the majority (60%) was characterized by a preoccupied attachment style and in which the remaining individuals (40%) were characterized by an avoidant attachment style; 2) a clinical group with low suicide risk ($N = 15$; mean age, 17.5 years), in which the majority (58%) was characterized by an avoidant attachment style; and 3) the control group, in which the vast majority (70%) was characterized by a secure attachment style (50).

In the present study, only adolescent boys with high scores in the area of attachment closeness/dependency had a lowered risk for lifetime suicide attempts, which means that only boys with a secure or a preoccupied attachment style (and not girls) had a lowered risk. Alternatively, only girls (and not boys) with high scores for negative affectivity had an increased risk of a lifetime suicide attempt. The pilot study mentioned previously did not report the specific psychopathology of the clinical populations or discuss the analyses of the distribution of attachment styles on the basis of gender (50). Another study has shown that adolescents with a preoccupied attachment style and passive and enmeshed mothers had higher levels of depression (55); other studies have indicated that anxious attachment could be a causal factor of depression (56). However, a common limitation of those studies is that gender is not included as a variable in their analyses. The present study indicates that the impact of attachment as a risk factor for lifetime suicide attempts may be dependent on gender. In comparison, a survey found that high social capital as measured by the perception of an individual's trustworthiness and helpfulness toward others at school was a stronger protective factor against suicide attempts among girls as compared with boys (51). Anxious attachment could be the common underlying risk factor for both depression and suicide attempts. The presented results emphasize the importance of future research to take gender into account when studying attachment as a possible risk factor for suicide attempts and when studying attachment in general. Attachment style has been found to be associated with affect regulation (26,27). Although general attachment research has concluded that clinical populations seem to be overrepresented by individuals with insecure attachment types, no systematic correlations between distinct psychopathology and distinct insecure attachment types have been identified (50). It could be fruitful for future research to examine whether attachment organization is related to gender and whether

attachment behavior and mental representations are expressed differently among boys as compared with girls.

Limitations

It is important to note that the present study does have some limitations. Although they are less time consuming and less expensive, self-report tests of attachment in adolescents have also been criticized for possibly not being able to capture the more subtle characteristics of attachment; therefore, time-consuming interviews are often recommended (32). However, the use of self-report assessment in the present study made it possible to study a total population of Faroese adolescents and thereby gather data about a broad population. The initially low reliability of the closeness/dependency scale, which consisted of twelve items, is a limitation of measures; however, reliability was improved when two items were excluded. The low reliability may possibly be explained by the presence of a different way in understanding the questions concerning closeness and dependency among adolescents as compared with adults. Collins and colleagues (57) proposed that adolescent girls may interpret the closeness questions as looking for information about sexual rather than emotional connections. Another limitation involves the fact that a suicide attempt is solely rated according to self-judgment and only addressed by one questionnaire item. No additional definition of the question (see the Measures section of this article) was provided for the participants, so it is possible that reports of lifetime suicide attempts in the present study may include adolescents who reported intentional and non-intentional self-injury and not just suicidal behavior (40,58). This leads to the recommendation that the present results be replicated with the use of more comprehensive measures of suicidal behavior. The low number of boys who reported suicide attempts is another limitation of the present study, because this may influence the results of the analysis and the possibility of reaching the level of significance. A final limitation is that the present study does not include measurements of psychopathology. Future studies should include measurements of mental illnesses such as depression, post-traumatic stress disorder, and anxiety.

Conclusions

The present study provides important data regarding the roles of attachment anxiety and attachment closeness/dependency, negative affectivity, and past and present social support in the risk for suicide attempts among Faroese

adolescents. Moreover, it reveals a possible important gender difference in these relations. The analysis involving the whole population of eighth graders—including both adolescents with and without lifetime suicide attempts—demonstrated that the absolute mean scores in the areas of attachment anxiety, negative affectivity, and past and present social support were significantly higher among girls as compared with boys. Alternatively, the absolute mean scores in the area of attachment closeness/dependency were similar for the two genders. Further analyses that compared adolescents with lifetime suicide attempts with those adolescents without such suicide attempts pointed at more gender differences, including in the areas of psychosocial variables and their effects on the risk of suicide attempts. The final analysis showed that attachment closeness/dependency only had a protective effect on suicide attempts among the boys and that negative affectivity only enhanced the risk of suicide attempt among girls. Therefore, the results demonstrate the necessity of taking gender into account in future research and when establishing arrangements to prevent suicide.

References

1. Gould MS, Greenberg T, Velting DM, Shaffer D. Youth suicide risk and preventive intervention: a review of the past 10 years. *J Am Acad Child Adolesc Psychiatry* 2003;42:386-405.
2. Sourander A, Klomek AB, Niemela S, Havisto A, Gyllenberg D, Helenius H, et al. Childhood predictors of completed and severe suicide attempts. *Arch Gen Psychiatry* 2009;66:398-406.
3. Beautrais AL. Suicide and serious suicide attempts in youth: a multiple-group comparison study. *Am J Psychiatry* 2003;160:1093-99.
4. Lewinsohn PM, Rohde P, Seeley JR. Adolescent suicidal ideation and attempts: prevalence, risk factors, and clinical implications. *Clin Psychol* 1996;3:25-46.
5. Runeson B, Tidemalm D, Dahlin M, Lichtenstein P, Långstrom N. Method of attempted suicide as predictor of subsequent successful suicide: national long term cohort study. *BMJ* 2010;13(341):1-6.
6. Lewinsohn PM, Rohde P, Seeley JR, Baldwin CL. Gender differences in suicide attempts from adolescence to young adulthood. *J Am Acad Child Adolesc Psychiatry* 2001;40:427-34.
7. Joe S, Baser RS, Neighbors HW, Caldwell CH, Jackson JS. 12-month and lifetime prevalence of suicide attempts among black adolescents in the National Survey of American Life. *J Am Acad Child Adolesc Psychiatry* 2009;48:271-82.
8. Elklit A, Petersen T. Exposure to traumatic events among adolescents in four nations. *Torture* 2008;18(1):2-11.
9. Goossens L. Theories of adolescence. In: Jackson S, Goossens L, eds. *Handbook of adolescent development*. New York: Psychology Press; 2006, p. 1-29.
10. Alsaker FD, Dick-Niederhauser A. Depression and suicide. In: Jackson S, Goossens L, eds. *Handbook of adolescent development*. New York: Psychology Press; 2006, p. 11-29.

11. Lasgaard M, Goossens L, Elklit A. Loneliness, depressive symptomatology, and suicide ideation in adolescence: cross-sectional and longitudinal analyses. *J Abnorm Child Psychol* 2010;39:137-50.
12. Bergen HA, Martin G, Richardson AS, Allison S, Roeger L. Sexual abuse and suicidal behavior: a model constructed from a large community sample of adolescents. *J Am Acad Child Adolesc Psychiatry* 2003;42:1301-09.
13. Hjelmeland H, Dieserud G, Dyregrov K, Knizek BL, Leenars AA. Psychological autopsy studies as diagnostic tools: are they methodologically flawed? *Death Studies* 2012;36:605-26.
14. Van Orden KA, Witte TK, Selby EA, Bender TW, Joiner TE Jr. Suicidal behavior in youth. In: Abela J, Hankin BL, eds. *Handbook of depression in children and adolescents*. New York: Guilford Press; 2008, p. 441-65.
15. Hacker KA, Suglia SF, Fried LE, Rappaport N, Cabral H. Developmental differences in risk factors for suicide attempts between ninth and eleventh graders. *Suicide Life Threat Behav* 2006;36:154-66.
16. Borowsky IW, Ireland M, Resnick MD. Adolescent suicide attempts: risks and protectors. *Pediatrics* 2001;107:485-93.
17. McKeown RE, Garrison CZ, Cuffe SP, Waller JL, Jackson KL, Addy CL. Incidence and predictors of suicidal behaviors in a longitudinal sample of young adolescents. *J Am Acad Child Adolesc Psychiatry* 1998;37:612-19.
18. Reifman A, Windle M. Adolescent suicidal behaviors as a function of depression, hopelessness, alcohol use, and social support: A longitudinal investigation. *Am J Community Psychol* 1995;23:329-54.
19. Reinherz HZ, Giaconia RM, Silverman AB, Friedman A, Pakiz B, Frost AK, et al. Early psychosocial risks for adolescent suicidal ideation and attempts. *J Am Acad Child Adolesc Psychiatry* 1995;34:599-611.
20. Lewinsohn PM, Rohde P, Seeley JR. Psychosocial characteristics of adolescents with a history of suicide attempt. *J Am Acad Child Adolesc Psychiatry* 1993;32:60-8.
21. Pirkis J, Burgess P, Dunt D. Suicidal ideation and suicide attempts among Australian adults. *Crisis* 2010;21:16-25.
22. Ainsworth MS, Blehar MC, Waters E, Wall S. *Patterns of attachment: a psychological study of the strange situation*. Oxford, England: Lawrence Erlbaum; 1978.
23. Bowlby J. *Attachment and loss. 3: Loss, sadness and depression*. London: Hogarth; 1980.
24. Bretherton I. The origins of attachment theory: John Bowlby and Mary Ainsworth. *Dev Psychol* 1992;28:759-75.
25. Bartholomew K, Horowitz LM. Attachment styles among young adults: a test of a four-category model. *J Pers Soc Psychol* 1991;61:226-44.
26. Mikulincer M, Shaver PR, Pereg D. Attachment theory and affect regulation: the dynamics, development, and cognitive consequences of attachment-related strategies. *Motiva Emo* 2003;27:77-102.
27. Mikulincer M, Shaver PR. *Attachment in adulthood: structure, dynamics, and change*. New York: Guilford Press; 2007.
28. Solomon Z, Dekel R, Mikulincer M. Complex trauma of war captivity: a prospective study of attachment and post-traumatic stress disorder. *Psychol Med* 2008;38:15-28.
29. Lizardi D, Grunebaum MF, Burke A, Stanley B, Mann JJ, Harkavy-Friedman J, et al. The effect of social adjustment and attachment style on suicidal behavior. *Acta Psychiatr Scand* 2011;124:295-300.
30. Allen JP, Land D. Attachment in adolescence. In: Cassidy J, Shaver PR, eds. *Handbook of attachment. Theory, research, and clinical application*. New York: The Guilford Press; 1999, p. 319-31.
31. Brown LS, Wright J. Attachment Theory in Adolescence and its relevance to developmental psychopathology. *Clin Psychol Psychother* 2001;8:15-32.
32. Brown LS, Wright J. The relationship between attachment strategies and psychopathology in adolescence. *Psychol Psychother* 2003;76:351-67.
33. Sroufe LA. Attachment and development: a prospective, longitudinal study from birth to adulthood. *Attach Human Dev* 2005;7:349-67.
34. Adam KS, Bouckoms A, Streiner D. Early parental loss and suicidal ideation in university students. *Can J Psychiatry* 1982;27:275-81.
35. Fergusson DM, Woodward LJ, Horwood LJ. Risk factors and life processes associated with the onset of suicidal behavior during adolescence and early adulthood. *Psychol Med* 2000;30:23-39.
36. Freidmeier W, Granquist P. Attachment transfer among German and Swedish adolescents: a prospective longitudinal study. *Pers Relationships* 2006;13:261-79.
37. Adam K S, Sheldon-Keller AE, West M. Attachment organization and history of suicidal behavior in clinical adolescents. *J Consult Clin Psychol* 1996;64:264-72.
38. Hagstova Føroya [Internet](<http://www.hagstova.fo/fo>) [Accessed 26 January 2014].
39. Petersen T, Elklit A, Olesen JG. Victimization and PTSD in a Faroese youth total-population sample. *Scand J Psychol* 2010;51:56-62.
40. Silverman MM, Berman AL, Sanddal ND, O'Carroll PW, Joiner TE. Rebuilding the Tower of Babel: a revised nomenclature for the study of suicide and suicidal behaviors. Part 2: suicide-related ideations, communications, and behaviors. *Suicide Life Threat Behav* 2007;37:264-77.
41. Collins NL, Read SJ. Adult attachment, working models, and relationship quality in dating couples. *J Pers Social Psychol* 1990;58:644-63.
42. Collins NL. Working models of attachment: implications for explanation, emotion, and behavior. *J Pers Soc Psychol* 1996;71:810-32.
43. Briggs SR, Cheek JM. The role of factor analysis in the development and evaluation of personality scales. *J Pers* 1986;54:106-48.
44. Briere J, Runtz M. The Trauma Symptom Checklist (TSC-33): early data on a new scale. *J Interpers Viol* 1989;4:151-63.
45. Krog T, Duel M. Trauma Symptom Checklist (TSC). *Psykologisk Studiefkriftserie* 2003;6:1-162.
46. Joseph S, Andrews B, Williams R, Yule W. Crisis support and psychiatric symptomatology in adult survivors of the Jupiter cruise ship disaster. *Br J Clin Psychol* 1992;31:63-73.
47. Bodvarsdottir I, Elklit A. Psychological reactions in Icelandic earthquake survivors. *Scand J Psychol* 2004;45:3-13.
48. Elklit A, Pedersen SS, Jind L. The Crisis Support Scale: psychometric qualities and further validation. *Pers Individ Diff* 2001;31:1291-1302.

49. Weihe P. Faroese ESPAD study [Internet]. Available from: <http://www.health.fo/index.asp?PID={EDA9FC61-823C-4B5A-8DE6-618410587F2A}> [Accessed 16 April 2012].
50. Wright J, Briggs S, Behringer J. Attachment and the body in suicidal adolescents: a pilot study. *Clin Child Psychol Psychiatry* 2005;10:477-91.
51. Langille DB, Asbridge M, Kisely S, Rasic D. Suicidal behaviors in adolescents in Nova Scotia, Canada: protective associations with measures of social capital. *Soc Psychiatry Psychiatric Epi* 2011;47:1549-55.
52. Langhinrichsen-Rohling J, Lewinsohn P, Rohde P, Seeley J, Monson CM, Meyer KA, et al. Gender differences in the suicide-related behaviours of adolescents and young adults. *Sex Roles* 1998;39:839-54.
53. Bridge JA, Goldstein TR, Brent DA. Adolescent suicide and suicidal behaviour. *J Child Psychol Psychiatry* 2006;47:372-94.
54. Taliaferro LA, Borowsky IW. Perspective-physician education: a promising strategy to prevent adolescent suicide. *Acad Med* 2011;86:342-47.
55. March P, McFarland FC, Allen JP, McElhaney KB, Land DJ. Attachment, autonomy, and multifinality in adolescent internalizing and risky behavioral symptoms. *Dev Psychopathol* 2003;15:451-67.
56. Milne LC, Greenway P. Intrapsychic factors contributing to adolescent depression. In: Columbus A, ed. *Advances in psychology research*. Hauppauge, NY: Nova Science Publishers; 2007, p. 43-85.
57. Collins NL, Cooper ML, Albino A, Allard L. Psychosocial vulnerability from adolescence to adulthood: a prospective study of attachment style differences in relationship functioning and partner choice. *J Pers* 2002;70:965-1008.
58. Madge N, Hewitt A, Hawton K, de Wilde EJ, Corcoran P, Fekete S, et al. Deliberate self-harm within an international community sample of young people: comparative findings from the Child & Adolescent Self-harm in Europe (CASE) study. *J Child Psychol Psychiatry* 2008;49:667-77.