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Motivation to Self-harm in Middle Childhood: Relationship to Emotional Symptomotology and Home Environment

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Introduction

Self-harm in childhood is an important, though neglected area of empirical research. Research has, however, investigated the emotional and environmental factors associated with self-harm in adolescent and adult populations. This research provides a foundation from which to investigate desire to self-harm in child populations.

With regard to emotional factors, self-injurers report having a negative affect they wish to avoid (Polk & Liss, 2007). Further, distraction from emotional pain has been identified as the most prevalent motivation for self-harm across genders (Swannell, Martin, Scott, Gibbons, & Gifford, 2008). Briere and Gil (1998) found self-injury is used in an attempt to decrease dissociation and emotional distress.

Additionally, individuals who self-harm present with risk factors in their home environment. Polk and Liss (2007) found self-injurers may have lacked emotional nurturance. Oftentimes, those who self-harm report having "a good relationship with one parent and a sharply negative relationship with the other" and come from families in which anger is prohibited (Carroll, Schaffer, Spensley, & Abramowitz, 1980).

Further research has shown various types of maltreatment are related to self-harm. Brierie and Gil (1998) found childhood sexual abuse and posttraumatic symptoms are good predictors. Correlations with self-injury have also been found with childhood history of physical abuse exposure to family violence (Carroll, Schaffer, Spensley, & Abramowitz, 1980), as well as neglect (Himber, 1994).

Research has examined female self-injurers in particular. Gallop (2002) found for many women survivors of child abuse, self-harm behaviors serve as a form of self-soothing to deal with intense and painful emotions. These emotions may have become overwhelming because of suppressed expression of feelings, double messages, and lack of affection within the family (Favazza & Conterio, 1989). Favazza and Conterio (1989) also found self-harmful behavior in women to be a function of impulsivity, providing relief from racing thoughts, depersonalization, and anxiety.

The purpose of this study is to better understand the desire to self-harm in middle childhood, an age group neglected by extant research. Linear discriminant function analyses were performed to investigate emotional factors such as anxiety, dissociation and suicidality as well as home environmental factors of physical abuse, emotional maltreatment, and parental substance abuse as they relate to self-harm in seven to nine-year-olds who have been identified as "at risk" for neglect and maltreatment. The present study uses a population comparison across genders to identify differences in motivations to self-harm.

Our research hypothesis stated children exhibiting emotional distress (e.g., anxiety, higher dissociation, suicidality) would be more likely to want to self-harm than children not reporting such distress. Additionally, we hypothesized children who had environmental risk factors (e.g., histories of physical abuse, emotional maltreatment, parental substance abuse) would be more likely to want to self-harm than their counterparts without such risk factors.

Method

Participants

Participants in this study included 359 of the 1,354 children in the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN) consortium. Participants included in the analyses for the present study had completed the Trauma Symptom Checklist and Things I Have Seen and Heard measures. Also, Child Protective Services data was available for all included cases.

The consortium is based at the University of North Carolina-Chapel Hill and consists of five sites across the United States. Recruitment procedures varied across the five sites, and 62.3% of participating families received governmental support upon recruitment into the LONGSCAN study (Hunter, Cox, Teagle, Johnson, Mathew, Kinght, & Leeb, 2003).

The full LONGSCAN sample is 48.5% male, 53.2% Black, 21.1% White, 7.2% Hispanic, 11.9% racially mixed, and 1.6% identified as another race. All participants were identified as being at-risk for maltreatment, or having experienced maltreatment before three and a half years of age.

Measures

Demographic information, including age, gender and ethnic background, was collected from caregivers. Maltreatment data was collected by Child Protective Services for both alleged and confirmed instances of abuse and neglect for each child.

Trauma Symptom Checklist for Children-Alternate Version (Briere & Runtz, 1989). Trauma Symptom Checklist for Children-Alternate Version is a shortened version of the Trauma Symptom Checklist for Children, a measure that assesses the effects of childhood trauma through the child's self-report. Anxiety and dissociation t-scores were included in the analyses for the present study. Individual items used include "wanting to kill yourself" as well as the criterion variable, "wanting to hurt yourself." "Wanting to hurt yourself" was originally scored with 0 meaning "never," 1 meaning "sometimes," 2 meaning "a lot of times," and 3 meaning "almost all the time." In order to better discern between polar groups, responses of 1 and 2 were re-categorized as a single intermediate group.

Things I Have Seen and Heard (Richters & Martinez, 1992). Things I Have Seen and Heard is a 20-item measure that examines young children's exposure to violence or violence-related events in three settings: home, school, and neighborhood. A pictorial format is used to facilitate child comprehension of response options. Items used in the present study are "Have you been beaten up" and "Feel safe at home."

Table 1a. Univariate Statistics and ANOVAs for the Discriminating Variables for Males (N = 183)

Group	Never Mean(std)	Intermediate Mean(std)	Almost all the time Mean(std)	F(df, dferror)	p
Have been beaten up	.34(.48)	.74(.45)	.80(.42)	12.460(2,181)	<.001
Feel safe at home	.88(.33)	.71(.46)	.50(.53)	7.247(2,181)	.001
Wanting to kill yourself	.04(.20)	.32 (.48)	.70(.48)	34.056(2,181)	<.001
Anxiety	52.75(15.24)	52.94(18.73)	58.70(24.86)	.613(2,181)	.543
Dissociation	52.55(11.69)	52.71(15.15)	56.90(18.33)	.548(2,181)	.579
Parental substance abuse	6.76(3.60)	6.68(3.69)	6.60(3.86)	.015(2,181)	.985
Emotional maltreatment	1.94(.23)	2.00(0.00)	2.00(0.00)	1.195(2,181)	.305

Table 2a. Standardized Canonical Coefficients and Structure Weights for the Discriminant Model for Males (used +/- .30 as the cutoff)

	Have been beaten up	Feel safe at home	Wanting to kill yourself	Anxiety	Dissociation	Parental substance abuse	Emotional maltreatment
ldf #1	**.382(.464)**	**-.402(-.370)**	**.807(.801)**	-.077(.084)	.123(.080)	-.052(-.017)	.168(.140)

Figure 2a. Graphical Depiction of the Multivariate Results for Males

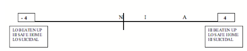

Table 3a. Classification Analysis for Self-harm Groups for Males

Actual group membership	n	Never n	Never %	Intermediate n	Intermediate %	Almost all the time n	Almost all the time %
Never	143	123	86.0	14	9.8	6	4.2
Sometimes/a lot of times	31	14	45.2	7	22.6	10	32.3
Almost all the time	10	2	20.0	1	10.0	7	70.0

Note. Overall percentage of correctly classified cases = 74.5%.

Table 1b. Univariate Statistics and ANOVAs for the Discriminating Variables for Males (N = 175)

Group	Never Mean(std)	Intermediate Mean(std)	Almost all the time Mean(std)	F(df, dferror)	p
Have been beaten up	.37(.49)	.50(.55)	.80(.42)	2.687(2,172)	.071
Feel safe at home	.80(.40)	.83(.41)	.50(.53)	1.385(2,172)	.253
Wanting to kill yourself	.01(.09)	.67(.52)	.70(.48)	37.068(2,172)	<.001
Anxiety	53.80(15.28)	67.83(16.01)	58.70(24.86)	4.850(2,172)	.009
Dissociation	53.19(12.20)	57.17(12.95)	56.90(18.33)	2.112(2,172)	.124
Parental substance abuse	6.02(3.88)	7.67(3.27)	6.60(3.86)	1.724(2,172)	.181
Emotional maltreatment	1.96(.19)	2.00(0.00)	2.00(0.00)	.195(2,172)	.823

Table 2b. Standardized Canonical Coefficients and Structure Weights for the Discriminant Model for Females (used +/- .30 as the cutoff)

	Have been beaten up	Feel safe at home	Wanting to kill yourself	Anxiety	Dissociation	Parental substance abuse	Emotional maltreatment
ldf #1	.114(.233)	-.044(-.119)	**.974(.992)**	-.047(.011)	-.003(-.088)	-.010(-.046)	.024(.071)
ldf #2	-.431(-.264)	**.286(.304)**	.127(.084)	**.873(.726)**	**-.095(.445)**	**.456(.423)**	.161(.044)

Figure 2b. Graphical Depiction of the Multivariate Results for Females

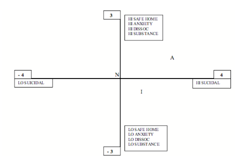

Table 3b. Classification Analysis for Self-harm Groups for Females

Actual group membership	n	Never n	Never %	Intermediate n	Intermediate %	Almost all the time n	Almost all the time %
Never	129	122	94.6	6	4.7	1	0.8
Sometimes/a lot of times	40	24	60.0	6	15.0	10	25.0
Almost all the time	6	2	33.3	0	.0	4	66.7

Note. Overall percentage of correctly classified cases = 75.4%.

Results

Discriminant analyses were used to determine if wanting to self-harm differed between boys and girls among those who never, sometimes/a lot of times, and always want to self-harm considering the factors of having been beaten up, feeling safe at home, wanting to kill yourself, anxiety, dissociation, parental substance abuse and emotional maltreatment. As can be seen in Table 1a and Table 1b, most of the variables showed significant mean differences among the wanting to self-harm groups. The model included the variables of having been beaten up, feeling safe at home, wanting to kill yourself, anxiety, parental substance abuse, dissociation and emotional maltreatment, which are shown in Figure 1a and Figure 1b. The multivariate analyses included the examination and comparison of the models derived from male and female children between the ages of seven and nine.

Multivariate analyses of the male group revealed one discriminant function reliably differentiated among two groups accounting for 37% of the variance ($\lambda = .619$, χ^2 (14) = 85.390, $p < .001$, Rc = .37). The function discriminates between the never group and the intermediate group from the almost all the time group, with having been beaten up, feeling safe at home and wanting to kill yourself contributing to discrimination among groups. Table 2a shows the standardized canonical coefficients and the structure weights, revealing contributing variables. Figure 2a gives a graphical depiction of the results. In total the function correctly classified 74.5% of the original group. Table 3a shows the classification results.

For females multivariate analyses revealed two discriminant functions reliably differentiated among the three groups, accounting for 10% of the variance LDF #1 → ($\lambda = .628$, χ^2 (14) = 78.503, $p < .001$, Rc = .30) and LDF #2 → ($\lambda = .903$, χ^2 (6) = 17.168, $p = .009$, Rc = .10). LDF #1 discriminates between the never group and the intermediate group from the almost all the time group, with wanting to kill yourself contributing to discrimination among groups. LDF #2 discriminates among the never group from the intermediate group from the almost all the time group, with feeling safe at home, anxiety, dissociation and parental substance abuse contributing to discrimination among groups. Table 2b shows the standardized canonical coefficients and the structure weights, revealing contributing variables. Figure 2b gives a graphical depiction of the results. In total the function correctly classified 75.4% of the original group. Table 3b shows the classification results.

A comparison of the structure of the models from the two groups was conducted by applying the model derived from the male population to the data from the female population and comparing the resulting "crossed" χ^2 with the "direct" χ^2 originally obtained from this group. There were 124 correct classifications unique to the direct model and 23 correct classifications unique to the crossed model. McNemar's test showed the models were significantly different, Z = 69.395, $p < .01$, such that the direct model worked better than the crossed model.

Discussion

The purpose of the present study was to better understand the desire to self-harm in middle childhood. Emotional symptomotology and home environment variables were analyzed between both genders.

For males, having been beaten up, feeling safe at home and suicidality were significant on the function predicting wanting to self-harm. As was hypothesized, males in the "almost all the time" group had higher numbers for have been beaten up and suicidality and lower numbers for feeling safe at home. This is consistent with previous findings that indicate childhood history of severe abuse and neglect is correlated with self-injury (Himber, 1994).

For females, suicidality contributed to the first function predicting wanting to self-harm. As was hypothesized, females in the "almost all the time" group had higher levels of suicidality. Feel safe at home, anxiety, dissociation and parental substance abuse contributed to the second function for females. As was hypothesized, females in the "almost all the time" group had higher levels of anxiety, dissociation and parental substance abuse. Contrary to the research hypothesis, females in the "almost all the time" group had higher levels of feeling safe at home. This seems contrary to Carroll, Schaffer, Spensley, and Abramowitz's (1980) finding that family violence is related to self-injurious behavior.

One possible explanation for the feeling safe at home finding in the female population is that the LDF accounts for many of the negative aspects of not feeling safe at home (e.g., parental substance abuse, physical abuse, emotional maltreatment). Children who feel overly protected may feel safe at home, but feel they have no control over their lives. Research has shown authoritarian parenting style, in which the parents set strict standards of conduct, is a causal consideration in self-harmful behavior (Pillay & Schlebusch, 1987). Further research is needed to explore this finding.

Building on Swannell, Martin, Scott, Gibbons, and Gifford's (2008) finding that distraction from emotional pain has been identified as the most prevalent motivation for self-harm across both genders, there are additional factors that should be considered. Because the male model worked better for the males than the female model, we know the models are structurally different. This shows the desire to self-harm may have different origins between male and female children.

Limitations of this study include initial equivalence because the children come from various backgrounds. Additionally, sample size is limited in some groups. Future research should attempt to increase power by having more adequate sample sizes for each group in order to properly identify differential causes for self harm between genders.

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