

Adolescent depression, family psychopathology and parent/child relations: a case control study

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Abstract

The objective of this study was to investigate family psychopathology and relationships between family members. Three groups of adolescents were interviewed: 1) currently depressed adolescents who have at least one parent who had/or is still experiencing a mood disorder, 2) currently depressed adolescents whose parents were never diagnosed with a mood disorder, 3) never-depressed control adolescents. Personal interview data was obtained from the proband, their parent(s) and one sibling. Findings suggest that parental psychopathology, parent-child relations and life events are all relevant factors in adolescent depression and should be considered in combination for assessment, prevention and intervention efforts.

Key words: Depression - Adolescent - Family - Sibling - Psychopathology

Introduction

Children of depressed parents are at increased risk for the development of psychopathology (Beardslee, Keller, Lavori, Staley & Sacks, 1993; Cummings & Davies, 1994; Weissman, Warner, Wickramaratne, Moreau & Olfson, 1997). Research findings indicate that children of depressed parents are not only at risk for clinical depression, but are also at increased risk for the full range of adjustment problems, including both externalizing and internalizing disorders (Downey & Coyne, 1990). For example, they are two to five times more likely to develop behaviour problems compared to children of non-depressed parents (Weissman et al., 1997; Weissman et al., 1987).

Research suggests the existence of biological factors that explain the prevalence for depression in certain families (McGuffin, Katz & Bebbington, 1988; McGuffin, Katz & Rutherford, 1991; Roy, 1993). A relationship between age of onset and the density of familial aggregation of depression has been reported. Specifically, late onset depression is believed to be associated with a lower density of depression in family members (Brodaty et al., 1991) whereas early-onset depression, under 20 years of age, appears to be associated with the greatest density of depression in family members (Weissman et al., 1984; Williamson et al., 1995). Furthermore, different dimensions such as temperament, (Chess & Thomas, 1986), developmental factors, (Beardslee, 1996) and the accumulation of early adverse life experiences (Heikkinen, Henriksson,

Isometsa, Marttunen, Aro, Lonqvist, 1997), have all been described as contributors to the development of depression.

Problems appearing early in life, such as family adversity and early childhood losses and neglect, may impact on developmental difficulties experienced in some families. These difficulties constitute a particular risk factor in families with depressed parents (Hammen, 1991). Negative patterns of parent/child interactions may have been established very early on, and contribute to the accumulation of family discord and adversity experienced by the depressed child. Moreover, a repetitive sequence of negative family interactions increases the risk of depression in adolescents (Bifulco, Brown & Harris, 1987; Rutter 1966, 1987).

Depression in adolescence is often associated with the absence of supportive and positive interactions with parents and is characterised by elevated levels of conflictual, critical and angry interactions (Lewinsohn, Rohde & Seeley, 1998; Sheeber & Sorensen, 1998). Research indicates that parents of depressed pre-adolescent children display less positive rewarding and supportive behaviours than do parents in comparative families (Shiner & Marmorstein, 1998).

The clinical literature suggests that depressed mothers experience difficulties in their parenting role (Burbach & Borduin, 1986; Coletta, 1983; Davenport, Zahn-Waxler, Adland & Mayfield, 1984; Hammen, Burge & Stansbury, 1990; Webster-Stratton & Hammond, 1988). Several studies have shown that depressed mothers often had difficulties with their own mothers (Andrews, Brown & Creasey, 1990; Downey & Coyne, 1990; Mills, Puckering, Pound & Cox, 1985; Murray, 1988). According to Hammen (1991), women's adverse childhood experiences with their own parents predict maternal distress/depression, child-rearing difficulties and psychopathology in their own children. Such findings are consistent with the general literature on the intergenerational transmission of parenting (Rutter, 1989; Van IJzendoorn, 1992; Zeanah & Zeanah, 1989).

Studies have suggested that there is a correlation between insecure attachment and depressive symptoms (Marton, Churchad, Kutcher & Korenblum, 1993). Early separation experiences, and inconsistent care giving, place individuals in an insecure situation, affecting both their feelings of self-worth and their ability to establish stable and secure attachments with others (Bowlby, 1980). Experiences

of loss and separation would interact with attachment relationships throughout the life span to create situations that increase personal vulnerability. According to Brown, Harris, Hepworth & Robinson (1994), early experiences of adversity (e.g. childhood abuse), the lack of childhood care, and the lack of affective bonds with a caring adult, constitute a greater risk factor of depression than even the death of a parent.

Despite the large body of research on depression, there has been little cohesive work done to adequately address the explanatory mechanisms, direction of causality and specificity of etiological factors in adolescent depression (Downey & Coyne, 1990; Hammen, 1991). Explanatory mechanisms are complex and the developmental process of how and when difficulties occurring in a family setting contribute to the development of a depressive disorder is important and requires further investigation. Much is known about how families function but a great deal remains to be understood concerning critical periods for the emergence of those difficulties, many of which have long term repercussions. For example, the developmental stage during which family difficulties occur may have a differential impact on the intensity of depressive disorders. The direction of causality is another factor that has yet to be clearly determined. Parenting may have a role in the etiology of adolescent depression or alternatively, parenting style may be affected by the challenges of parenting a depressed child/adolescent. As well, there is little research speaking to the question of which types of childhood disorders are linked with particular kinds of parenting practices. Finally, the issue of specificity is significant. It remains to be determined if dysfunctional parenting behaviour is actually linked to depression. Interpersonal difficulties may be associated with other types of problems ongoing in the family such as marital difficulties or stressful conditions.

Much past research has been fraught with methodological limitations. Non-standardized measures of parental severity and chronicity of disorder have generally handicapped studies. As well, few studies have controlled for psychopathology in other family members. Furthermore, the effects of having a depressed parent still need to be explored with the relative differences of the depressed parent being the mother or the father compared. There is also a lack of research with regard to the risk factors for siblings living in the same household.

In the present study, three different family contexts were investigated in the hope of differentiating the influences of parental depression from parenting style: 1) families in which there is a depressed adolescent and at least one depressed parent (mother) (DA/DP), 2) families in which there is a depressed adolescent and no-depressed parents (DA/NDP), and 3) families in which there are no-depressed adolescents and no-depressed parents (NDA/NDP).

It was hypothesised that there would be more adverse parent-child relations in families of depressed parents (DA/DP) than in families of non-depressed parents (DA/NDP)

and NDA/NDP), and more personal difficulties and psychological problems in siblings from families of depressed parents (DA/DP) than in siblings from families of non-depressed parents (DA/NDP and NDA/NDP).

Method

Design: The design was a case comparison with multiple respondents.

Procedure: Depressed adolescents were recruited through various mental health services at the Children's Hospital of Eastern Ontario (CHEO), a regional pediatric health care centre. Patients were referred directly from their clinical programs to the study along with a recent Beck Depression Inventory (BDI; Beck et al., 1961, 1967, 1974, 1988). If the BDI score was 16 or greater, indicating moderate to severe depressive symptomatology, the adolescent was contacted by telephone and invited to participate. Non-depressed adolescents were self-referred. If the adolescent expressed interest in participating, their mother, father, and siblings were contacted and invited to participate. The inclusion criteria required that the proband's biological mother also agree to participate. Interviews were conducted primarily at the home of the participating families with a few being held at CHEO. Each family member was interviewed separately.

All participants were administered the Schedule for Affective Disorders and Schizophrenia-Children's version (K-SADS-P; Chambers et al., 1985)(adolescent) or Structured Clinical Interview for DSM-IV (SCID; Spitzer, Williams, Gibbon, First, 1990)(parent), the BDI, The Parental Bonding Instrument (PBI; Parker, 1979), and the Life Events Checklist (Johnson and McCutcheon, 1986). Upon completion of the interview, each adolescent was given \$10.00 for his or her participation. Participants were then assigned membership in one of the three groups based on their own affective state and that of their mothers.

Participants: Adolescents were between the ages of 12-18 and raised by their biological mothers. In all, 117 referrals were received. No contact was made with 37 of those referred due to: low depression screening test scores (n=12), lack of availability (families could not be located or lived too far from the hospital) (n=21), evidence of extreme psychotic behaviour (n=1), or failure to meet age and biological family criteria (n=3). Of the 80 adolescents contacted, only 37 were interviewed, the others being excluded as a result of lack of interest or availability (n=38), or failure to meet inclusion criteria (n=5). Twenty-seven of the 37 adolescents interviewed met all inclusion criteria and were assigned to one of three groups based on the affective state of adolescent and mother. The comparison group was recruited from adolescents visiting the emergency units, Teen Health Clinic, and physiotherapy department at CHEO.

The first group consisted of 11 depressed adolescents whose mothers suffer or have suffered from a mood disorder (DA/DP). Included within this group were 9 females and 2 males between the ages of 13-17. Eight adolescents in this group were diagnosed with a major depres-

sive disorder (MDD) and three received a diagnosis of both MDD and dysthymia (double depression). Of the mothers included in this group, seven were diagnosed with MDD, two with a bipolar I disorder, one with depression due to a general medical condition, and one with double depression. Two probands in this group also had a father who suffered from MDD. The second group contained 7 depressed adolescents from families in which neither parent had ever experienced a major depression (DA/NDP). This group was comprised of six females and one male, ranging in age from 14-18. Six of the seven adolescents in this group suffered from MDD, while one suffered from a dysthymic disorder. The comparison group consisted of 9 non-depressed female adolescents (14-17 years of age) whose mothers and fathers were also non-depressed (NDA/NDP). These adolescents were matched individually on age and gender with adolescents in the DA/DP group.

Measures:

Structured Clinical Interview for DSM-IV (SCID) (Spitzer, Williams, Gibbon, First, 1990). This standardised semi-structured clinical interview establishes current and past adult psychopathology using diagnostic criteria from the DSM-IV. The measure is divided into separate modules dealing with each major diagnosis and determines the presence of Axis I and Axis II diagnoses. It is reported to be a reliable interview with reliability estimates similar to those obtained for other major diagnostic instruments (Williams et al., 1992).

Schedule for Affective Disorders and Schizophrenia-Children's version (K-SADS-P; Chambers et al., 1985). The K-SADS-P is a diagnostic instrument administered in a semi-structured interview format and used to identify and grade ongoing psychiatric disorders in children and adolescents. This diagnostic instrument has demonstrated adequate Inter-rater and test-retest reliabilities (Chambers et al., 1985).

The Beck Depression Inventory (BDI; Beck et al., 1961, 1967, 1974, 1988). The BDI is a 21 item self-report questionnaire describing cognitive and somatic symptoms of depression. It has been reported to be a reliable screening device for major depression and a good measure of the severity of depression in adolescent patients with a diagnosis of depression (Kutcher & Marton, 1989). Moreover, a cut-off of 16 (moderate to severely depressed) minimizes false positives (9%) while retaining adequate sensitivity (68%) and an overall classification accuracy rate of 75% (Marton et al., 1991). Internal consistency reliabilities for the BDI range from 0.8 to 0.9 (Kashani et al., 1987).

The Parental Bonding Instrument (PBI; Parker, 1979). This measure consists of 25 statements about perceived parental behaviours during the first sixteen years of life. A four-point Likert scale is used to assess the degree to which each statement describes the parent in question. The participant answers twice, once for his mother and once for his father. The measure is composed of 2 subscales: parental care and parental overprotection. Test-retest reliability and internal consistency are both reported as high for this measure

(Parker, 1984).

The Life Events Checklist (Johnson and McCutcheon, 1986). This 57 item self-report measure requires respondents to indicate events experienced during the past year and to further indicate whether (a) each event is viewed as being desirable or undesirable and (b) the impact of each event on their lives. Impact ratings are made on a 7-point scale (-3 extremely negative to +3 extremely positive). Positive and negative change scores are obtained by summing the impact ratings of events rated as positive and negative respectively. The correlation between the number of positive events and the positive change score is .87, and the correlation between the number of negative events and the negative change score is .92 (Johnson and McCutcheon, 1986). Using the simple unit procedure, test-retest correlations were .71 ($p < .001$) for positive and .66 ($p > .001$) for negative change.

Results

Differences on Background Demographic Data

The matching procedure was successful in achieving equivalence between the 3 groups on the adolescent probands' age, current school grade, gender and number of siblings living in the household. There were no differences between groups on mothers' age, level of education and marital status. The small number of fathers and siblings who participated in the study made it impossible to conduct any meaningful statistical analyses on their data. Table 1 lists the means and standard deviations of the demographic variables for the study participants.

Psychopathology as assessed by the SCID/K-SADS-P

Table 2 summarizes the lifetime prevalence of psychopathology for each family member. As can be seen, the density of psychopathology was greatest in the DA/DP group for both depressive and co-morbid disorders.

Beck Depression Inventory

Separate ONEWAY analyses of variance (ANOVA) were conducted on the BDI scores of the probands and their mothers. Significant group effects were obtained for both the probands ($F(2,24)=11.43, p=.000$) and their mothers' ($F(2,24)=9.57, p=.001$). Post-hoc Tukey HSD comparisons revealed that adolescents in the DA/DP group and the DA/NDP groups both demonstrated significantly higher levels of depressive symptomatology (26.8 ± 13.4 and 30.0 ± 14.5 respectively) than adolescents in the comparison group ($5.8 \pm 3.9, p < .001$). There were no significant differences between the scores of the two depressed adolescent groups. For mothers, follow-up comparisons indicated that scores in the DA/DP group were significantly higher (20.0 ± 12.3) than those in the DA/NDP and NDA/NDP groups (4.0 ± 2.2 and 6.2 ± 5.7 respectively, $p < .05$). No differences were found in the level of depressive symptomatology of mothers in the latter two groups.

Parental Bonding Instrument

Separate ONEWAY ANOVAs were conducted for probands on their scores for each of the two sub-scales (care, overprotection) of the PBI. Each participant completed the questionnaire twice, once on their mother and once on their

father. Adolescents' scores on the overprotection sub-scale of the PBI revealed a significant main effect for maternal overprotection ($F(2,24)=5.83, p<.05$). Tukey post-hoc comparisons indicated that adolescents in the DA/NDP group described their mothers as being significantly more overprotective than mothers in the DA/DP group (21.3 ± 4.9 and 11.2 ± 8.8 respectively, $p<.02$) and the NDA/NDP comparison group ($10.8 \pm 5.2, p<.02$). No significant differences were found on the maternal care sub-scale scores across the three groups. Conversely, adolescent sub-scale scores revealed a significant main effect for paternal care ($F(2,24)=6.0, p<.01$). Tukey post-hoc comparisons revealed that adolescents in the DA/DP group had significantly lower care scores than those in the NDA/NDP group (18.1 ± 10.7 and 30.9 ± 4.1 respectively, $p<.01$). No significant differences were found on the paternal overprotection sub-scale scores across the three groups.

Proportionally, there were far more mothers rated as high on overprotection (scores greater than 13.3) in the DA/NDP than in the DA/DP and the NDA/NDP groups (see Table 3). Fathers in the DA/DP and the DA/NDP groups were distributed approximately equally in terms of overprotection (scores greater than 12.5). No fathers in the NDA/NDP group were rated as high on overprotection. With respect to parental care, there were more mothers in the DA/NDP group rated as low on care (scores less than 28) compared to those in the DA/DP group and the NDA/NDP group. The pattern of results differed for fathers with the DA/DP group having the highest proportion of fathers rated as low care (scores less than 25) followed by the DA/NDP and NDA/NDP groups. Expected frequencies were insufficient to conduct valid 2 by 3 chi square analyses.

Life Events Checklist

Two ONEWAY ANOVAs were conducted separately for adolescents and their mothers on the sub-scales of the Life Events Checklist, one for the negative life events scores, and one for the positive life events scores. Although neither analysis on adolescent scores reached statistical significance, there was a trend for the DA/DP and the DA/NDP groups to have more negative life events (10.9 ± 6.6 and 8.3 ± 5.1 respectively) and less positive life events (4.6 ± 3.9 and 3.0 ± 3.8 respectively) than the NDA/NDP group (negative 5.1 ± 4.5 ; positive 9.0 ± 6.6). A small effect size ($\eta^2 = .22$) with power of .57 was found for the positive life events. A small effect size was also found for the negative life events ($\eta^2 = .18$) with power of .48.

Analyses conducted on mothers negative life events scores revealed a significant main effect of group ($F(2,24)=5.1, p<.02$) with the DA/DP group having considerably more negative life events (9.0 ± 7.9) than the NDA/NDP group ($1.7 \pm 1.9, p<.02$). The DA/NDP group did not differ significantly from the other two groups (3.7 ± 2.3). The number of positive life events reported by mothers revealed no significant effect across groups (DA/DP = 3.6 ± 3.9 ; DA/NDP = 1.3 ± 2.4 ; NDA/NDP = 2.2 ± 3.2).

Discussion

The present study was designed to assess family psychopathology and parent-child relations experienced by depressed adolescents compared to those experienced by their non-depressed peers. Family psychopathology was elevated in families of depressed adolescents whose mothers were also depressed. In particular, mothers in the DA/DP group were more likely to report having suffered from both anxiety and depression and having experienced past trauma than mothers in the other groups. As well, fathers in this group were more likely to have histories of substance abuse relative to fathers in the other groups. Siblings in this group were also more likely to have experienced a depressive disorder. Overall, the family aggregation of depressive disorders as well as for co-morbid diagnoses was greatest in those families where both the mother and proband had been diagnosed with a depressive disorder. It is important to note that the adolescent's own level of depression and co-morbidity was not indicative of the level of family psychopathology as adolescents in both the DA/NDP and the DA/DP were indistinguishable clinically.

Results indicate that non-depressed probands experienced more positive life events than depressed probands and that depressed mothers have experienced more negative life events than mothers who are not depressed. These results are not surprising. From a cognitive behavioural perspective, depressed individuals are more likely to interpret their ongoing experiences in negative ways (Wilkes, Belsher, Rash & Frank, 1994). This would explain the fewer perceived positive events in depressed adolescents and the greater number of negative events perceived by depressed mothers. It is also possible that an accumulation of negative events over a depressed mother's life have contributed to the maintenance of her depression and to the intergenerational transmission of a sense of hopelessness as well as affective disturbance in the face of such difficulties. The inclusion of a comparison group of depressed mothers whose adolescents are not depressed may have shed some light on this.

Adolescents' perceptions of parent-child relations were evaluated in two domains of attachment: care and overprotection. Results obtained from the overprotection subscale of the PBI indicated that depressed adolescents in the DA/NDP group perceived non-depressed mothers as more overprotective than the depressed mothers in the DA/DP or the non-depressed mothers in the comparison group. This interaction between maternal depression and depressed adolescents' perceptions of parenting has been reported in earlier studies (Colder, Lochman & Wells, 1997; Crook, Raskin & Eliot, 1981). The observed differences across groups may be the result of parents' differing in affective state themselves. Non-depressed mothers may be concerned about how best to meet the needs of their depressed child and may react with overprotectiveness. Depressed mothers on the other hand may be less preoccupied with the affective needs of their depressed child and/or be expending their personal resources on their own adjustment. With depleted coping resources,

they may be less able to give support, and may be more prone to withdraw from their depressed child in order to attend to their own emotional needs.

Perceived levels of maternal care did not differ significantly between the three groups of adolescents although scores were highest in the non-clinical comparison group. A larger sample size may have enabled us to detect a significant difference on care scores, suggesting that depressed individuals, with or without depressed mothers, may perceive lower levels of maternal care. This finding was not anticipated as the literature suggests that depressed mothers would be those most likely to have difficulty with their emotional bond and caring relationship to their child (Gerlsma, Snijders, Marrijtje, Duijn, Emmelkamp, 1997). The fact that both clinical groups showed similar results in the adolescents' perception of the level of care received from their mothers suggests that this dimension may be more susceptible to a perceptual bias on the part of the depressed adolescent respondent. In other words, depressed adolescents may be able to identify the structure and control assessed by the overprotection dimension of the PBI but less able to objectively assess the level of care assessed by this measure. Conversely, parents of depressed adolescents, regardless of their own affective state or history, may be affected by their child's depression in such a way that it truly influences the care dimension of their relationship.

Shiner & Marmorstein (1998) also compared three groups of adolescents: 1) ever-depressed adolescents with ever-depressed mothers, 2) ever-depressed adolescents with never-depressed mothers and 3) never-depressed control adolescents. Their results indicated that ever-depressed adolescents with ever-depressed mothers described poorer family functioning than did ever-depressed adolescents with never-depressed mothers and controls. There is evidence to suggest that maternal depression may well contribute to perceived family dysfunction by depressed adolescents. Although the greatest perceived level of family dysfunction was in the families with greater psychopathology, this dysfunction was not in and of itself sufficient to explain the presence of adolescent depression since depressed adolescents without a depressed parent did not perceive family dysfunction as intensely.

The interplay between biological and environmental influences remains quite complicated. While genetic and biological factors may also be implicated in depression, current research (Lewinsohn et al., 1998; Sheeber & Sorensen, 1998) establishes the importance of family environment and psychosocial factors in adolescent depression.

The model guiding the present research focuses on cycles of events starting with family adversity, which may lead to attachment difficulties and eventually to conflictual parent/child relations. If the difficulties accumulate over time, they may trigger symptoms of depression in vulnerable adolescents. Early childhood adversities, including parental separation or neglect, may affect children negatively, to a point where they experience difficulty in building a stable and positive relationship with a parent, thus increasing family discord and contributing to inadequate parenting styles and

practices. These family difficulties increase the risk of depression in adolescents (Bifulco et al., 1987; Rutter 1966, 1987). Once on a path to depression during the developmental course, this trajectory may become self-perpetuating, as the individual provokes or simply perceives, an increasing series of adverse events. This could explain the tendency for many of these individuals to alienate themselves and withdraw from social supports, which decreases opportunities to put an end to the negative spiral of events (Hammen, 1991).

It is clear from recent research findings that parental psychopathology is one of the most important variables in the development of depression in children and adolescents. Parental depression leads to family disruption, which in turn leads to child psychopathology, and impacts negatively on parent-child relations. The greater the number of negative events in a family, the greater the risk of developing a depressive disorder during adolescence. Maternal depression is associated with depression in adolescence through its relation to social disadvantage, marital discord or family adversity.

In the investigation of family dysfunction and the development of adolescent depression, there has been little research on siblings in families of depressed adolescents. It would seem that studying similarities and differences across siblings would be a promising area of investigation, since the siblings of depressed adolescents would experience at least minimal shared environmental influences and would be at equal "risk" to develop depression. While children of depressed parents are at risk for maladaptive outcomes, it is also true that some children may develop to be well adapted. In fact, depressed families most often do not present a homogenous environment to all the children in the household. The difference in exposure to adverse experiences between the siblings might be one explanation in the development of depressive disorder. The present research suggests that the accumulation of psychopathology within families, particularly in the presence of parental depression, is quite significant. The proportion of siblings that are resilient to both the biological and environmental influences may be quite small. Nevertheless, it is not an insignificant number and therefore may provide clues to prevention efforts in those at risk.

Although the present study addressed several shortcomings of previous research, the methodology employed here also had several limitations. Perhaps the most obvious is the size of the sample recruited for the study. Although intended as a preliminary exploration of the various constructs presented, the sample precluded many more detailed analyses of the variables at play. Future research assessing parental depression and parent-child relations as potential factors in the etiology of adolescent depression would benefit from larger scale studies involving a greater number of participants. It should be noted that the present study was designed as a pilot to such a larger scale study. It was difficult to recruit fathers, and more efforts should eventually be made to include more fathers and siblings. As well, more measures should be used in an effort to describe with more detail the family environment and the complex interactions in parent-

child relations. A prospective-longitudinal approach in the investigation of these constructs could also help to clarify some of the causal pathways in the etiology of depression in children and adolescents.

The findings of this study suggest that both parental depression and parent-child relations are relevant factors that should be explored in combination toward a better understanding of the development of adolescent depression, as well as the severity and course of this disorder. Future study should look into gender differences of depressed adolescents and its impact on parent-child relations. In particular, research focusing on possible intervention efforts involving the family unit that could aid mental health professionals in providing assistance for depressed adolescents and their families is imperative. The value of such family-based interventions in the prevention of adolescent depression is also worth some exploration.

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Table 1
Characteristics of study participants by group

GROUP		N	Age in Years M (SD)	Gender (M/F) %	Current School Grade M (SD)	Siblings Yes (%) M (SD)
DA/DP	Mother	11	43.2 (4.0)			
	Father	5	47.6 (3.4)			
	Proband	11	15.7 (1.1)	18.2 / 81.8	9.5 (0.8)	(81.8) 1.5 (1.2)
	Sibling	7	18.7 (1.0)	57.1 / 42.9	12.6 (1.8)	
DA/NDP	Mother	7	44.5 (3.7)			
	Father	3	50.4 (8.4)			
	Proband	7	16.3 (1.4)	14.3 / 85.7	10.4 (1.5)	(71.4) 1.3 (1.0)
	Sibling	3	18.8 (2.2)	0 / 100	13.0 (1.7)	
NDA/NDP	Mother	9	46.7 (2.9)			
	Father	7	48.4 (4.4)			
	Proband	9	16.1 (1.0)	33.3 / 66.7	10.4 (0.9)	(100) 1.6 (0.7)
	Sibling	6	17.0 (3.9)	83.3 / 16.7	11.0 (3.5)	

Table 2
**Lifetime prevalence of psychopathology as measured
 by the SCID (K-SADS) for each family member separately for each group**

GROUP	Family Member	Mood Disorder	Anxiety Disorder	PTSD	Substance Use Disorder	Any Other Disorder
DA/DP	Mother	100% (11/11)	54.4% (6/11)	45.4% (5/11)	9.1% (1/11)	36.4 (4/11)
	Father	40% (2/5)	40% (2/5)	0% (0/5)	60% (3/5)	0% (0/5)
	Proband	100% (11/11)	18.2% (2/11)	18.2% (2/11)	54.5% (6/11)	27.3 (3/11)
	Sibling	85.7% (6/7)	14.2% (1/7)	28.4 (2/7)	42.8% (3/7)	28.6 (2/7)
DA/NDP	Mother	0% (0/7)	14.2 % (1/7)	28.5% (2/7)	14.2% (1/7)	0% (0/7)
	Father	0% (0/3)	0% (0/3)	0% (0/3)	33.3% (1/3)	0% (0/3)
	Proband	100% (7/7)	42.8% (3/7)	28.5% (2/7)	28.5% (2/7)	42.9 % (3/7)
	Sibling	0% (0/3)	0% (0/3)	0% (0/3)	0% (0/3)	0% (0/3)
NDA/NDP	Mother	0% (0/9)	22.2% (2/9)	0% (0/9)	0% (0/9)	0% (0/9)
	Father	0% (0/7)	0% (0/7)	0% (0/7)	28.5% (2/7)	0% (0/7)
	Proband	0% (0/9)	11.1% (1/9)	0% (0/9)	0% (0/9)	0% (0/9)
	Sibling	0% (0/6)	0% (0/6)	0% (0/6)	0% (0/6)	0% (0/6)

Note. PTSD = Post Traumatic Stress Disorder

Table 3
**Means, standard deviations and proportion of mothers and fathers rated on the
 Parental Bonding Instrument as high on Overprotection and low on Care**

GROUP		Overprotection		Care	
		M (SD)	% (n)	M (SD)	% (n)
DA/DP	Mother	11.2 ± 8.8	18.2 (2)	27.4 ± 10.5	27.3 (3)
	Father	14.9 ± 9.5	54.5 (6)	18.1 ± 10.7	63.6 (7)
DA/NDP	Mother	21.3 ± 4.9	100.0 (7)	25.3 ± 10.9	42.9 (3)
	Father	13.4 ± 10.8	42.9 (3)	25.4 ± 7.8	42.9 (3)
NDA/NDP	Mother	10.8 ± 5.2	33.3 (3)	31.9 ± 5.8	22.2 (2)
	Father	8.0 ± 3.2	00.0 (0)	30.9 ± 4.1	11.1 (1)