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ORIGINAL ARTICLE

Mothers' and Fathers' Ratings of Family Relationship Quality: Associations with Preadolescent and Adolescent Anxiety and Depressive Symptoms in a Clinical Sample

Alexander H. Queen · Lindsay M. Stewart · Jill Ehrenreich-May · Donna B. Pincus

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Abstract This study examined the independent associations among three family relationship quality factors—cohesion, expressiveness, and conflict—with youth self-reported depressive and anxiety symptoms in a clinical sample of anxious and depressed youth. Ratings of family relationship quality were obtained through both mother and father report. The sample included families of 147 preadolescents and adolescents (56.6 % female; 89.8 % Caucasian), 11–18 years old (M = 13.64, SD = 1.98) assigned a principal diagnosis of an anxiety or depressive disorder. When controlling for age and concurrent anxiety symptoms, regression analyses revealed that for boys, both father- and mother-rated family cohesion predicted depressive symptoms. For girls, mother-rated family expressiveness and conflict predicted depressive symptoms. Youth anxiety symptoms were not significantly associated with any family relationship variables, controlling for concurrent depressive symptoms. Findings suggest that parent-rated family relationship factors may be more related to youth depressive than anxiety symptoms in this clinical sample. In addition, family cohesion, as perceived by parents, may be more related to boys' depression, whereas expressiveness and conflict (as rated by mothers) may be more related to girls' depression. Clinical implications and recommendations for future research are discussed.

Keywords Depression · Anxiety · Adolescence · Parenting · Family relationships

A. H. Queen (✉) · J. Ehrenreich-May
Department of Psychology, University of Miami,
Flipse Building, Room 327, 5665 Ponce de Leon Boulevard,
Coral Gables, FL 33146, USA
e-mail: aqueen@psy.miami.edu

L. M. Stewart
NeuroBehavioral Institute, Weston, FL, USA

D. B. Pincus
Department of Psychology, Boston University,
Boston, MA, USA

Introduction

Previous empirical work has found important associations between various dimensions of family relationship quality and youth internalizing symptoms. For example, past research has overwhelmingly demonstrated an association between higher levels of family conflict and youth depression [1–3], as well as broader internalizing symptoms [4–6]. These associations have been found among community [7, 8] and clinical samples [3, 9]. In addition to higher levels of conflict, youth depression is inversely related to measures of family cohesion, defined as the degree to which family members perceive mutual support from one another [10–13]. The association of family cohesion with pediatric anxiety symptoms has received less empirical attention, and results are mixed, with some studies suggesting an association with low cohesion [14, 15], and others suggesting an association with very high cohesion (e.g., families high in overprotection, [16]).

In addition to family conflict and cohesion, family expressiveness is also theorized to contribute to the quality of the family relationship. Family expressiveness refers to the degree to which family members verbally and non-verbally express and encourage the expression of both positive and negative emotions with one another [17]. Family expressiveness is theorized to influence children's self-perceptions, efficacy of emotional communication, and beliefs regarding the acceptability of emotional expression

[18, 19]. Children of families high in expressiveness may learn to value emotional expression, whereas those in families low in expressiveness may learn to suppress emotional experiences. Emotional suppression, in turn, is associated with increased risk for anxiety and depression [20, 21]. In line with theory, prior research has found that mothers of anxious children report lower levels of family expressiveness than mothers of non-anxious youth [22], suggesting that families of anxious children may encourage less emotional expression or discussion. The association between family expressiveness and youth depression has been mixed, with some studies showing a negative association between depression and expressiveness [23, 24], whereas others have found no association [1].

However, our knowledge of the associations among family relationship quality with youth anxiety and depression is limited in several ways. First, the majority of prior research on family relationships and youth internalizing symptoms has relied exclusively upon mothers' reports of family functioning [25], despite evidence for a unique role that fathers play in the family environment [26]. Furthermore, prior work has found significant, yet moderate, correlations between mother and father ratings of family relationship quality [27], suggesting that mothers and fathers may perceive some aspects of family relationships differently. Research using multi-informant approaches to examine family relationship quality has found independent associations for fathers' perceptions of family relationships and their children's depression symptoms. For instance, among a cohort of high school students ($N = 107$), lower levels of father–child cohesion, and higher levels of father–child conflict, were stronger predictors of youth depressive symptoms than mother–child cohesion and conflict [1]. Furthermore, father–child conflict has been shown to be as predictive of youth depressive symptoms as mother–child conflict among youth with depressive disorders and subclinical depressive symptoms [28]. However, research into fathers' perceptions of family relationship quality and youth anxiety symptoms is more limited [26].

Furthermore, there is evidence that since fathers and mothers may perceive and report on family relationship quality in different manners, this in turn may produce differential associations with youth internalizing symptoms. For instance, a recent study using a clinically anxious sample of youth ($N = 178$) found that for older youth (11–16 years old), maternal reports of family expressiveness were negatively related to children's social anxiety symptoms, whereas fathers' reports of family expressiveness were positively related to their children's social anxiety symptoms [27]. Given these findings, the authors speculated that mothers and fathers may socialize their children's expressiveness in different manners. For instance, prior research has found that fathers report lower levels of family expressiveness than mothers [27, 29], and that fathers and mothers may express emotions differently [26]. However, family expressiveness is only one dimension of family relationship quality, and thus an important next step is to determine if these findings remain when simultaneously examining family cohesion and conflict.

Second, prior research on associations between family relationship quality and youth internalizing symptomatology has generally been limited to a specific focus on youth anxiety *or* depression symptoms [1, 27, 28]. However, youth anxiety and depression highly co-occur with one another [30, 31], with correlations between youth self-report measures of depression and anxiety ranging from $r = 0.50$ to $r = 0.70$ [32]. The co-occurrence between anxiety and depression is particularly high among adolescents, compared to younger children [33]. Furthermore, recent research within emotion science has revealed that high negative affect is a latent factor underlying both anxiety and depressive disorders in youth, suggesting anxiety and depression share similar affective characteristics [34, 35]. In addition, youth anxiety and depression are both characterized by poor emotional awareness and regulation across numerous emotional domains [36]. Given the important role of parenting and family relationships in shaping children's emotion socialization and regulation [37], controlling for the co-occurrence of anxiety and depressive symptoms may allow for better understanding of whether family relationship quality is more strongly related to youth anxiety or depression.

To address these limitations, the current study was a preliminary investigation into cross-sectional associations among father and mother reports of three family relationship quality variables—family cohesion, conflict, and expressiveness—with youth self-reported anxiety and depressive symptoms among a clinical sample of preadolescents and adolescents. While other parenting (e.g., overcontrol) and family factors have shown associations with youth anxiety and depression [38], measures of cohesion, expressiveness, and conflict are the most consistently used factors to assess family relationship quality in studies of youth internalizing symptoms [1, 39]. Thus, we only included these three family variables in our analyses.

We examined separate associations of mother and father reports of family relationship quality with youth anxiety and depressive symptomatology, controlling for their co-occurrence. In addition, given evidence that fathers and mothers socialize emotions differently dependent upon child gender [37, 40, 41], we examined if different associations were found for boys versus girls. Thus, our research questions included: *Which family relationship factors are most predictive of youth internalizing symptoms*? *Are these associations stronger for youth depression or anxiety symptoms*? *Are different associations observed*

for mother report versus father report? And, lastly, *are different associations found for boys versus girls*?

This study used a clinical sample of preadolescents and adolescents assigned a principal diagnosis of an anxiety and/or depressive disorder. The use of a clinical sample was chosen to increase generalizability of study findings to clinical populations. In addition, including youth with anxiety disorders, depressive disorders, or both was chosen due to the high diagnostic comorbidity of these disorders [30].

The use of a preadolescent and adolescent sample (ages 11–18) was chosen due to higher base rates of depression among adolescents compared to younger children, as well as stronger correlations between self-reported anxiety and depression symptoms among older youth [32, 33, 42]. In addition, prior research has found a stronger relationship among family relationship variables and youth-reported internalizing symptoms with preadolescents and adolescents (11–16 years old) than children ages 10 and younger [27]. Thus, the use of a preadolescent and adolescent sample, as compared to a younger child sample, was hypothesized to yield more robust associations.

In line with theory and prior research, lower levels of family cohesion and family expressiveness, and higher levels of family conflict, were hypothesized to demonstrate independent associations with higher levels of youth depressive symptoms. We hypothesized similar findings would emerge when using father and mother ratings of family relationship quality. However, given differential findings with family expressiveness in prior work [1, 27], hypotheses involving this dimension were more exploratory. In addition, lower cohesion, higher conflict, and lower expressiveness were hypothesized to be associated with higher youth anxiety symptoms.

Method

Participants

The sample consisted of 147 preadolescents and adolescents (56.6 % female), ages 11–18 years (M = 13.64, SD = 1.98), who presented for diagnostic assessment at a specialty clinic for outpatient treatment of anxiety and/or depressive disorders. Families were referred to this specialty clinic by local pediatricians, family physicians, child psychiatrists, school personnel, and other mental health professionals. Given our desire to assess family relationship quality using a multi-informant approach, only families in which both the mother and father were present for the assessment were included. Furthermore, given the focus on examining these associations among youth with clinical levels of internalizing distress, only subjects with a principal diagnosis of an anxiety and/or depressive disorder were included. The ethnicity of the sample was as follows: 89.8 % White, Non-Hispanic, 1.7 % Hispanic, 1.7 % African–American, 0.8 % Asian–American, and 5.9 % reporting "other" ethnicity. The majority of parents were married (88.7 %), with remaining parents either divorced (8.5 %), separated (2.1 %), or in "another living arrangement" (0.7 %). On average, fathers were slightly older (M = 47.51 years, SD = 5.92) than mothers (M = 45.64, SD = 4.72). The median reported family income was $100,000.

Principal diagnoses of participants are presented in Table 1. All diagnoses were assigned at the youth's pre-treatment evaluation. The most common primary diagnoses included social phobia, obsessive–compulsive disorder, and generalized anxiety disorder. Approximately 69.39 % of participants (n = 102) were assigned a comorbid anxiety or depressive disorder, with 71 subjects (48.30 % of sample) assigned a comorbid anxiety disorder, and 31 participants (21.09 % of sample) assigned a comorbid depressive disorder. The most frequently assigned comorbid disorders were social phobia, generalized anxiety disorder, major depressive disorder, and specific phobia. Therefore, while this was a primarily anxious sample, with only 14 subjects (9.5 % of sample) assigned a primary diagnosis of either major depressive disorder or dysthymic disorder, approximately one-third (30.61 %) of the sample had either a primary or secondary depressive disorder diagnosis. In addition, 51 adolescents (34.7 % of the sample) had elevated self-reported depressive symptoms, as indicated by a score of 12 or higher on the children's depression index (CDI; [43]). Non-internalizing comorbid disorders included attention-deficit/hyperactivity disorder (n = 17; 11.56 %), substance-related disorder (n = 4; 2.72 %), and eating disorder, not otherwise specified (n = 1; 0.68 %).

Table 1 Breakdown of principal diagnoses in sample (N = 147)

Principal diagnosis	n	% of sample
Social phobia	30	20.4
Obsessive–compulsive disorder	22	15.0
Generalized anxiety disorder	19	12.9
Panic disorder with agoraphobia	16	10.9
Specific phobia	15	10.2
Major depressive disorder	11	7.5
Separation anxiety disorder	10	6.8
Anxiety disorder NOS	6	4.1
Agoraphobia without panic	6	4.1
Dysthymic disorder	3	2.0
Panic disorder without agoraphobia	3	2.0
Impulse control disorders	3	2.0
Post-traumatic stress disorder	2	1.4
Selective mutism	1	0.7

All diagnoses were based upon youth and parent responses on the Child and Parent Report Forms of the Anxiety Disorders Interview Schedule for the DSM-IV, Child Version (ADIS-IV-C/P; [44]). The ADIS-IV-C/P is a semi-structured diagnostic interview for children and adolescents ages 7–17 years that assesses all anxiety and mood disorders using criteria from the *DSM-IV*. The ADIS-IV-C/P has demonstrated adequate test–retest reliability and construct validity [45], as well as good inter-rater reliability ($\kappa = 0.92$; [46]). Kappa coefficients for combined anxiety diagnoses are in the good to excellent range ($\kappa = 0.80$–0.92), although specific psychometric data for depressive diagnoses have not previously been reported [46]. Excellent inter-rater reliability for primary diagnoses was observed among this sample ($\kappa = 0.87$). The mean clinical severity rating (CSR) for principal diagnoses, a clinician-rated measure, was 5.85 (SD = 1.00). CSR values may range from 0 to 8, with a rating of 4 or above considered a clinical level of severity and impairment.

Procedure

Approval for this study was obtained through the Institutional Review Board (IRB). Informed parental consent and youth assent were obtained prior to participation. All measures were administered at the youth's pre-treatment diagnostic evaluation. Participants and their parents completed measures separately, with parents completing measures during the youth's diagnostic interview, and vice versa.

Family Cohesion

Family cohesion was measured by mother and father ratings on the Cohesion subscale of the *Family Environment Scale* (FES; [47]). This subscale is comprised of nine true–false items, which measure the degree to which a respondent believes his or her family has open communication, as well as the degree of perceived help and support that family members display towards one another. Higher scores correspond to greater perceived cohesion. The Cohesion scale of the FES is a commonly used measure of family cohesion and has demonstrated sufficient internal consistency ($\alpha = 0.78$; [48]).

Family Expressiveness

Family expressiveness was assessed by mother and father ratings on the Expressiveness subscale of the FES [47]. This subscale assesses the degree to which family members are encouraged to openly express their emotions. Similar to the Cohesion subscale, this subscale contains nine items. Higher scores correspond to higher levels of perceived expressiveness. Prior evaluation has revealed adequate internal consistency ($\alpha = 0.69$; [48]).

Family Conflict

Family conflict was assessed by mother and father ratings on the Conflict subscale of the FES [47]. This subscale assesses the degree to which the rater perceives conflict among family members. This subscale also contains nine items. Higher scores correspond to higher levels of perceived conflict. Prior evaluation has revealed good internal consistency ($\alpha = 0.75$; [48]).

Youth Depressive Symptoms

Youth self-reported depression was measured using the *Children's Depression Inventory* [43]. The CDI is a 27-item, self-report measure of the cognitive and behavioral symptoms of depression over the previous 2 weeks. Higher scores correspond to higher levels of depression. The CDI has demonstrated good psychometric properties and is considered a valid and reliable measure of depressive symptoms for children ages 7 through 18 years [49].

Youth Anxiety Symptoms

Youth anxiety symptoms were measured using the *Multidimensional Anxiety Scale for Children* (MASC; [50]). The MASC is a 39-item self-report measure using a four-point Likert scale for children to rate their experiences with anxiety symptoms. Although the MASC is not a diagnostic tool, it has shown to be a valid screening instrument and has shown good overall internal consistency ($\alpha = 0.79$–0.86; [51]). The Total score of the MASC was used to serve as a measure of global anxiety symptoms. Higher scores correspond to greater anxiety symptom severity.

Results

Preliminary Analyses

All variables were assessed for normality prior to data analyses using skewness and kurtosis levels. Both the father report and mother report of cohesion were found to be slightly skewed (skewness > 1). To control for potential non-normality of these variables, logarithmic transformations were conducted for the father-rated and mother-rated FES Cohesion subscale scores. All other variables demonstrated acceptable levels of normality.

Descriptive Statistics

Independent samples *t* tests were conducted to compare mean levels of depressive symptoms, anxiety symptoms, and father and mother-reported family relationship variables between

boys and girls. Findings indicated no significant differences on levels of depressive symptoms between boys (M = 10.33, SD = 8.18) and girls (M = 11.41, SD = 7.95), as well as no significant differences on levels of anxiety symptoms between boys (M = 49.45, SD = 17.28) and girls (M = 49.69, SD = 18.51). In addition, there were no significant gender differences on levels of any family relationship variable, either father-rated or mother-rated. Finally, there were no significant differences on any family environment variables, youth depressive symptoms, or youth anxiety symptoms between intact (e.g., both parents residing in the household) families ($n = 125$) and non-intact families ($n = 22$).

Although levels of father-rated and mother-rated family relationship dimensions did not differ by gender, similar to previous studies [27], across the entire sample, father ratings of family expressiveness (M = 5.12, SD = 1.88) were lower than mother ratings of family expressiveness (M = 5.78, SD = 1.95), $t(145) = -3.49$, $p = 0.001$. However, there were no significant differences between father and mother ratings of family cohesion or family conflict.

Table 2 Bivariate correlations, means, and standard deviations of study variables among whole sample ($N = 147$)—father report of family relationship quality

	CDI	MASC	Cohesion	Conflict	Expressiveness
CDI	–	0.45***	−0.29**	0.10	−0.07
MASC	–	–	−0.06	−0.04	0.01
Cohesion	–	–	–	−0.36***	0.46***
Conflict	–	–	–	–	−0.23**
M	10.96	49.37	6.79	3.24	5.12
SD	8.01	17.84	2.04	2.11	1.88

CDI Children's depression inventory, MASC multidimensional anxiety scale for children, Total score

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 3 Bivariate correlations, means, and standard deviations of study variables among whole sample ($n = 147$)—mother report of family relationship quality

	CDI	MASC	Cohesion	Conflict	Expressiveness
CDI	–	0.45***	−0.16	0.10	−0.17
MASC	–	–	−0.12	−0.01	−0.19
Cohesion	–	–	–	−0.25**	0.48***
Conflict	–	–	–	–	−0.05
M	10.96	49.37	6.91	3.12	5.78
SD	8.01	17.84	1.99	2.09	1.95

CDI Children's depression inventory, *MASC* multidimensional anxiety scale for children, Total score

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Correlational Analyses

Bivariate correlations, means, and standard deviations for the whole sample ($N = 147$) are presented separately based upon father report of family quality (Table 2) and mother report of family quality (Table 3). Of interesting note, when including both genders, only father report of cohesion was significantly correlated with youth symptomatology, and only with depressive symptoms ($r = -0.29$, $p = 0.001$). No dimensions of family relationship quality were related to youth anxiety symptoms, although there was a trend towards significance with mother report of family expressiveness ($r = -0.19$, $p = 0.06$). An additional unexpected finding was that family expressiveness was negatively related to family conflict among father reports ($r = -0.23$, $p < 0.01$), but these variables were unrelated among mother reports ($r = -0.05$, ns).

Not reported in these tables are inter-correlations between father and mother reports of family relationship quality, as well as correlations among child age and remaining variables. Father and mother reports of family cohesion ($r = 0.39$, $p < 0.001$), family conflict ($r = 0.58$, $p < 0.001$), and family expressiveness ($r = 0.29$, $p < 0.001$) were significantly and positively correlated. Child age was positively correlated with self-reported depressive symptoms ($r = 0.30$, $p = 0.001$), but not anxiety symptoms ($r = -0.14$, ns). Child age was negatively correlated with father ratings of family cohesion ($r = -0.20$, $p < 0.05$), but was not significantly associated with any other family relationship quality variable.

Regression Analyses

A series of hierarchical multiple regression analyses were conducted to examine independent associations among family relationship variables, as measured by mother and father report, and youth anxiety and depressive symptomatology. Separate regression models were run for father and mother report of family relationships. In addition, to examine gender differences, separate regression models were run for boys and girls. Given the significant associations among child age, depressive symptoms, and father ratings of family cohesion, the youth's age was entered in the first block of the regression model to control for developmental effects. To control for concurrent anxiety and depression symptoms, CDI scores were entered as a control variable when predicting MASC scores, and vice versa, in the second step. The three family relationship variables—family cohesion, expressiveness, and conflict—were simultaneously entered in the third step.

Boys and Depressive Symptoms

Among preadolescent and adolescent boys ($n = 65$), as hypothesized, after controlling for age and MASC scores,

lower levels of father-rated family cohesion predicted higher CDI scores, $\beta = -0.45$, $p < 0.01$, (95 % CI = −49.73, −12.67), $\Delta R^2 = 0.15$. However, contrary to hypotheses, levels of father-rated family expressiveness, $\beta = 0.09$, and conflict, $\beta = -0.04$, did not independently predict youth depressive symptoms.

In regard to mother report of family relationship quality, after controlling for age and MASC scores, lower levels of mother-rated family cohesion predicted higher CDI scores, $\beta = -0.41$, $p < 0.01$, (95 % CI = −3.31, −0.83), $\Delta R^2 = 0.14$. Contrary to hypotheses, as well as with father report, *higher* levels of mother-rated family expressiveness predicted higher levels of boys' depression, $\beta = 0.29$, $p < 0.05$, (95 % CI = 0.30, 2.51), $\Delta R^2 = 0.07$. Levels of mother-rated family conflict, $\beta = 0.04$, did not significantly predict boys' depressive symptoms.

Boys and Anxiety Symptoms

Contrary to hypotheses, after controlling for age and CDI scores, none of the father-rated family relationship factors significantly predicted boys' MASC scores. Also contrary to hypotheses, after controlling for age and CDI scores, none of the mother-rated family relationship variables predicted boys' MASC scores.

Girls and Depressive Symptoms

Among preadolescent and adolescent girls ($n = 82$), after controlling for age and MASC scores, contrary to hypotheses and the findings obtained for boys, none of the father-rated family relationship variables predicted CDI scores. In addition, levels of mother-rated family cohesion did not predict girls' CDI scores, $\beta = 0.23$, $p =$ ns.

However, consistent with hypotheses but contrary to findings for boys, controlling for age and MASC score, *lower* levels of mother-rated family expressiveness predicted higher depressive symptoms for girls, $\beta = -0.31$, $p < 0.05$, (95 % CI = −2.64, −0.15), $\Delta R^2 = 0.05$. In addition, greater mother-rated family conflict marginally predicted higher levels of girls' depressive symptoms, $\beta = 0.24$, $p = 0.05$, $\Delta R^2 = 0.05$.

Girls and Anxiety Symptoms

Similar to findings for boys, after controlling for age and CDI scores, none of the father-rated family relationship variables predicted MASC scores for girls. Similarly, none of the mother-rated family relationship factors predicted girls' MASC scores.

Discussion

The current study examined independent associations among three dimensions of family relationships—family cohesion, expressiveness, and conflict—as rated by mothers and fathers, with preadolescent and adolescent self-reported depressive and anxiety symptoms in a clinical sample of anxious and depressed youth. These associations were examined separately among boys and girls. When controlling for concurrent anxiety symptoms, findings indicated that for boys, both father-rated and mother-rated family cohesion were significant predictors of depressive symptoms. An unexpected finding was that higher levels of family expressiveness, as reported by mothers, were associated with higher levels of boys' depressive symptoms. Family conflict, whether reported by mothers or fathers, was not a significant predictor of boys' depressive symptoms. When controlling for depressive symptoms, boys' anxiety symptoms were not significantly associated with any family relationship quality variable, either by mother or father report.

Among girls, contrary to findings for boys, none of the father-rated family relationship variables were significant predictors of depressive or anxiety symptoms. Furthermore, opposite to findings for boys, lower levels of family expressiveness, as reported by mothers, were associated with higher levels of girls' depressive symptoms. In addition, a higher level of mother-rated family conflict was a marginally significant predictor of girls' depressive symptoms. Similar to boys, girls' anxiety symptoms were not predicted by any family relationship variables.

These findings further highlight that associations between family relationship factors and preadolescent and adolescent internalizing symptomatology may depend upon the family relationship dimension measured, the rater, and the youth's gender. For boys, findings suggest that reports of family cohesion may be the most consistent predictor of depressive symptoms. For girls, family expressiveness and conflict, particularly as assessed by mothers, may be more relevant to depressive symptomatology.

On the one hand, it may not be surprising that conflict was a marginally significant predictor for girls' symptoms but not boys' symptoms, given evidence for girls' greater sensitivity to relational stressors [52, 53]. However, given this greater relational orientation among girls, one would also expect cohesion to be a significant predictor for girls, yet this only emerged for boys. It may be that perceptions of mutual support are more important to buffer against depressive symptoms for boys than girls, whereas boys' depressive symptoms may be more resilient to family conflict than girls. Further research should examine potential mediators and moderators of these associations.

Similar to evidence from other studies [27], this study suggests that among the family quality variables, family expressiveness may be the most dependent upon child gender and informant. Whereas mother-rated family expressiveness was positively related to depressive symptoms among boys, it was negatively associated with girls' symptoms. Among this sample, father report of family expressiveness was not a significant predictor of youth symptoms for either gender. These findings cannot simply be explained by differences in levels, given that levels of mother-rated family expressiveness for boys and girls were not significantly different. However, these findings may be explained by the manner in which fathers and mothers differently socialize emotions in boys versus girls [37]. In addition, correlational analyses revealed that among father ratings, expressiveness and conflict were negatively related, whereas these factors were unrelated among mother ratings. These results suggest that fathers may perceive family expressiveness and conflict as related, whereas mothers view these as more independent. However, replication and future research into these differences are needed.

Another intriguing finding from this study was that no family relationship factors emerged as significant predictors of preadolescent and adolescent anxiety symptoms, when controlling for depressive symptoms. It may be that poor family relationship quality is a greater contributor to symptoms and correlates more aligned with youth depression—feelings of worthlessness, anhedonia, and depressogenic cognitions—than symptoms more closely related to anxiety. These findings also suggest that previous associations of family relationship quality may be a result of the high correlation between youth depressive and anxiety symptoms [32]. While at first perhaps surprising, the lack of any significant associations with youth anxiety is consistent with prior research that suggest that family factors (with the exception of parental overprotection) may not play as large a role in the development or maintenance of youth anxiety, as compared to other childhood disorders [38]. However, given the preliminary nature of this study, caution should be taken when interpreting these findings, and future studies should seek to replicate or disconfirm such hypotheses.

Results from this study also add to accumulating evidence of the unique and important role of fathers' perceptions of family relationships. Although historically neglected in research [26], fathers' ratings of family relationships may be as equally important as mothers' report, especially for boys' depressive symptoms. In addition, mother and father ratings of family relationship quality were significantly yet only moderately correlated with one another, which is consistent with prior work [27] and adds further evidence that mothers and fathers may perceive various dimensions of family relationships differently. Thus, these results suggest that whenever possible, clinicians should gather both mother and father assessments of family relationship quality, as fathers may have unique insight into family relationships that may be missed if only gathering information from mothers.

Based on these results, targeted interventions addressing dysfunctional family processes may be beneficial in treating preadolescents and adolescents with internalizing distress, especially for depressive symptoms. In the youth depression treatment literature, targeting family processes (e.g., problem-solving, communication) within behavioral interventions has shown to be as effective as standard cognitive-behavioral therapy [54]. Results from this study support targeting such family processes, in addition to other techniques of cognitive-behavioral therapy (e.g., cognitive restructuring, behavioral activation) and further argue that certain elements of family relationships may be more relevant treatment targets dependent on child gender. For treatment of boys' depression, attempts to increase mutual support and cohesion may be particularly relevant to symptom remission, whereas for girls, attempts to improve family expressiveness and reduce conflict may be more beneficial.

In addition, whenever possible, clinicians should consider including fathers in treatment. Prior research has found that including both parents in treatment of youth externalizing disorders is associated with better long-term outcomes and maintenance of treatment gains [55]. More relevant to this study, recent empirical work has found that higher engagement of both mothers and fathers in family cognitive-behavioral treatment of youth internalizing disorders is associated with improved treatment outcomes [56]. Results from this study are consistent with these findings.

Limitations

Perhaps the greatest limitation of the study is its cross-sectional design. As a result, causal inferences regarding family relationship and preadolescent and adolescent depressive symptoms cannot be made. Thus, we acknowledge the limitation of the cross-sectional design and the need for longitudinal data to provide greater support for prediction and directionality. While it is possible that the behaviors of depressed youth may negatively affect family relationships, some evidence from prospective studies supports the directionality used in our statistical models. For instance, in two longitudinal studies, initial levels of support and conflict predicted later adolescent depressive symptoms, but initial levels of adolescent depression did not predict subsequent reductions in family relationship quality [57, 58].

Another limitation includes the use of a largely homogenous sample. This sample was overwhelmingly Caucasian, of high socioeconomic status, and composed primarily of married parents. Thus, this sample may not be representative of

the broader population seeking mental health services. In addition, many of these factors (e.g., socioeconomic status, marital status) are known to be associated with a diverse array of youth mental health and family functioning outcomes [4]. Future studies should seek to test these associations among minority youth, families of lower socioeconomic status, and families of primarily divorced or separated parents. In addition, while the use of a clinical sample may help to generalize to treatment-seeking families, families presenting for treatment are likely not representative of the broader youth population with anxiety and depressive disorders, and thus replication of findings with community samples is warranted.

In addition, the majority of the sample had principal anxiety, not depressive, disorders. It is possible that a sample seeking treatment for only principal depressive disorders in adolescence would yield different findings. However, when viewing diagnoses more broadly, approximately 30.69 % of participants were assigned either a primary or secondary depressive disorder diagnosis. In addition, mean self-reported depression scores were close to the suggested clinical cut-off score of 12 on the CDI [43], and approximately one-third of the sample had scores at or higher than this cut-off, suggesting that many participants were reporting subclinical levels of depression. In a study by Sheeber et al. [28], both adolescents meeting diagnostic criteria for a depressive disorder, as well as those with subthreshold symptoms, demonstrated less supportive and more conflictual family relationships than control participants [28]. Thus, findings may have been similar had a primarily depressed sample been used. Furthermore, we conducted regression analyses with youth with elevated depressive symptoms ($n = 51$) and without elevated depressive symptoms ($n = 96$), and observed similar findings, giving further support to the reliability of our findings, despite the primarily anxious sample. However, future research should attempt to replicate findings with a larger group of principally depressed preadolescents and adolescents.

Finally, another limitation is the sole use of self-report measures of family relationship quality and youth anxiety and depressive symptoms. Self-report measures only capture perceptions of family relationship quality, and thus future studies may wish to include observational data of family interactions as more objective indicators of family dynamics. In addition, these measures only assess global aspects of family relationships, as opposed to dyadic parent–child relationship and marital relationships, and prior research has found stronger associations of parent–child cohesion and conflict, as opposed to marital cohesion and conflict, with youth internalizing distress [1]. Furthermore, although the MASC and CDI are among the most well-validated self-report measures of youth anxiety and depression, the inclusion of clinician-rated and parent-rated measures would also add to study findings. However, despite these limitations, this study offers an important step in examining independent associations of family relationship quality factors, as rated by both mothers and fathers, with preadolescent and adolescent anxiety and depressive symptoms.

Summary

The present study examined cross-sectional and independent associations of family cohesion, expressiveness, and conflict with youth anxiety and depressive symptoms in a clinical sample of anxious and depressed preadolescents and adolescents. We assessed these three family relationship quality factors through both father and mother ratings, and youth symptoms were assessed through self-report measures. Participants included 147 preadolescents and adolescents (11–18 years) with a primary anxiety or depressive disorder diagnosis. Controlling for age and concurrent anxiety symptoms, results indicated that among boys, both father and mother ratings of family cohesion were negatively associated with depressive symptoms. In addition, mother ratings of family expressiveness were positively associated with boys' depressive symptoms. Among girls, mother-rated family expressiveness and conflict were negatively associated with depressive symptoms. There were no significant associations observed in predicting anxiety symptoms, controlling for age and concurrent depressive symptoms, among any family relationship factor. Findings suggest associations of family relationship quality and youth depression may be dependent upon mother versus father report, dimension of family relationship quality, and the youth's gender. In addition, findings suggest that family relationship factors may be more strongly related to youth depression than anxiety. However, replication with longitudinal data is warranted.

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