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Discrepancies in Adolescents' and their Mothers' Perceptions of the Family and Adolescent Anxiety Symptomatology

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SYNOPSIS

Objective—This study examines relations between adolescents' and their mothers' perceptions of the family and adolescent anxiety symptomatology.

Design—Surveys were administered to 145 15- to 18-year-old adolescents and their mothers.

Results—Adolescents viewed the family more negatively than did their mothers. In addition, adolescent girls' perceptions of the family (satisfaction and communication) negatively predicted later adolescent anxiety symptomatology. Significant interactions between adolescent and mother reports of family satisfaction and communication also were found for girls, but not for boys. For girls, discrepant family perceptions with their mothers appeared to protect them from anxiety if their mothers had negative perceptions of the family.

Conclusions—Understanding the similarities and differences among family members' perspectives yields useful predictive information that cannot be obtained from studying these perspectives in isolation from one another.

INTRODUCTION

During adolescence, numerous changes take place within the individual including pubertal development, advances in cognitive development, and identity development (Smetana, Campione-Barr, & Metzger, 2006; Spear, 2000). However, it is important to realize that the changes that the adolescent experiences are embedded within the adolescent's contexts. According to relational developmental systems theoretical models (Lerner, 2006; Lerner & Overton, 2008; Overton, 2010), it is imperative to consider the context and the link between the context and the individual (Ford & Lerner, 1992, Lerner, 2006). Notably, developmental systems models contend that the basic unit of analysis in developmental science is the relation between characteristics of the individual and the context (Bronfenbrenner & Morris, 2006).

One context that plays a particularly important role during adolescence is the family. In general, most adolescents experience positive relationships with their family (Smetana et al., 2006). However, levels of family conflict tend to increase during adolescence, as adolescents negotiate more autonomy from the family (Montemayor, 1983). Perceptions of family satisfaction and cohesion also typically decrease during this developmental period

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(Ohannessian, Lerner, Lerner, & von Eye, 2000; Smetana et al., 2006; Steinberg & Morris, 2001), with adolescents reporting lower levels of closeness and support as adolescence progresses (Laursen & Collins, 2009; Mooney, Laursen, & Adams, 2006). Throughout adolescence, youth also report less communication and disclosure with their parents (Smetana, Villalobos, Tasopoulos-Chan, Gettman, & Campione-Barr, 2009).

As levels of family conflict rise, disagreements between adolescents and their parents similarly increase (De Los Reyes, Thomas, et al. 2012). Although adolescents and their parents typically disagree on many issues, these issues tend to be inconsequential and focus on relatively trivial topics, such as tastes in music or leisure activities (Csikszentmihalyi & Larson, 1984; Petersen, 1988). However, in addition to minor disagreements, adolescents tend to view the family in a more negative light in comparison to their parents (Fung & Lau, 2010; Gaylord, Kitzmann, & Coleman, 2003; Ohannessian, Lerner, Lerner, & von Eye, 1995, 2000; Shek, 2007). In our work (Ohannessian, Lerner, Lerner, & von Eye, 1995, 2000), we have found early adolescents (M age=12.05, $SD=.66$) to report lower levels of family cohesion and family satisfaction than their parents. Other studies also have found that adolescents report lower levels of parental monitoring and more communication problems in comparison to their parents (De Los Reyes, Salas, Menzer, & Daruwala, 2013; Laird & De Los Reyes, 2013; Reynolds, MacPherson, Matusiewicz, Schreiber, & Lejuez, 2011; Yu et al., 2006). Currently, there is disagreement among contemporary scholars in regard to whether these differences in adolescent and parent perceptions of the family are adaptive for the adolescent and/or the family.

Discrepancies in Adolescent and Parent Perceptions of the Family

Discrepancies as Adaptive—Research consistently has shown that during adolescence family conflict increases and family cohesion decreases (Smetana et al., 2006; Steinberg & Morris, 2001). These changes are in part due to the adolescent's developing cognitive abilities which allow him/her to think about alternatives, take different perspectives, and question previously held views (Blakemore, 2007, 2008; Smetana & Villalobos, 2009), including parents' views. As such, it is typical for adolescents to begin to perceive the family more negatively. In essence, the child's "rose-colored glasses" are taken off during adolescence. Importantly, the adolescent's increasing negative view of the family and subsequent adolescent-parent disagreements may serve key developmental functions; primarily the development of adolescent autonomy and the realignment of family relationships (Holmbeck & O'Donnell, 1991; Montemayor & Flannery, 1991; Shek, 2002; Steinberg, 1990, 1991). However, discrepancies in adolescent and parent perceptions of the family are not due to changes in the adolescent alone. According to relational developmental systems and transactional perspectives (Beveridge & Berg, 2007; Lerner, 2006; Lerner et al., 2011), the adolescent-parent relationship is dynamic and adolescents and parents influence one another to produce development. Clearly, both adolescents and their parents play active roles in the development of the adolescent's autonomy. Parents may actively encourage their adolescent's independent behavior, as well as submit to their adolescent's increasing push for autonomy (Soenens et al., 2007).

Consistent with the perspective that discrepancies in adolescent and parent perceptions may be developmentally adaptive, Holmbeck and O'Donnell (1991) found discrepancies in perceptions of autonomy granting in adolescents and their mothers to be associated with an increase in attachment in the adolescent-mother relationship. In addition, discrepancies in adolescents' and mothers' perceptions of decision making were related to lower levels of adolescent internalizing symptomatology. In a study conducted by Calson, Cooper, and Spradling (1991), discrepancies in adolescent and father perceptions of the adolescent-parent relationship (e.g., perceptions of role performance, affective involvement, and expression),

but similarities in adolescent and mother perceptions of the parent-adolescent relationship, were associated with higher levels of adolescent self-competence and self-esteem. These results suggest that the adolescent-father relationship may play a more central role in encouraging the adolescent's individuation from the family, whereas the adolescent-mother relationship may provide the support necessary for successful individuation from the family. In a novel study examining 10- to 14-year-old adolescents with Type I diabetes, Butner and colleagues (2009) found that discrepancies between adolescents' and parents' perceptions of the adolescent's competence in caring for his/her diabetes were associated with increased levels of adolescent autonomy and parental encouragement of independence. Taken together, findings from studies examining discrepancies in adolescents' and their parents' perceptions of the family suggest that in the short term, the stress and conflict associated with disagreements between family members may result in problems for the adolescent. However, in the long term, discrepancies in adolescent-parent perceptions appear to play a salient role in the development of adolescent autonomy and the realignment of family relationships. Results from these studies suggest that discrepancies in adolescent-parent perceptions may be essential for the successful mastery of the primary developmental tasks of adolescence (e.g., the development of autonomy and identity) and may be ultimately adaptive for both the adolescent and the family. However, it is important to note that in the short term, differences in perceptions may be associated with increased levels of conflict and stress within the family. As such, differences in adolescent-parent perceptions also may be related to psychological problems during adolescence.

Discrepancies in Adolescent and Parent Perceptions of the Family

Discrepancies as Maladaptive—There is a growing literature indicating that discrepancies in perceptions between adolescents and their parents may not be entirely adaptive for adolescents and their families. As noted, discrepant perceptions between adolescents and their parents have been associated with higher levels of family conflict (Holmbeck & O'Donnell, 1991; Miller & Drotar, 2003). In our work (Ohannessian et al., 1995), we have found discrepancies in early adolescents' (M age = 12.05, SD = .66) and their parents' perceptions of family functioning (family cohesion and family adjustment) to be linked to higher levels of internalizing symptomatology. Similarly, in a study examining 166 Chinese American adolescents and their parents, Juang, Syed, and Takagi (2007) found greater discrepancies between adolescents' and their parents' perceptions of parental control to be related to more depressive symptoms. Likewise, in a longitudinal study focusing on 378 Hong Kong Chinese adolescents and their parents (Shek, 1998), discrepancies in perceptions of family functioning between adolescents and parents were associated with a number of negative adjustment indicators for the adolescents, including feelings of hopelessness, lower levels of positive mental health, lower self-esteem, and higher levels of psychiatric morbidity. Of note, discrepancies in adolescent and parent perceptions of the family have been found to be related to externalizing behaviors, including substance use and aggressive behavior, as well (De Los Reyes, 2011; Ohannessian, 2012). In addition, adolescents' and parents' discrepant views of daily family life topics (e.g., completing chores and homework) have been associated with adolescents' scores on performance-based tasks of emotion recognition (De Los Reyes, Lerner, Thomas, Daruwala, & Goepel, 2013). In turn, emotion recognition performance has been linked to expressions of various domains of psychopathology including autism spectrum conditions, conduct problems, and depression (e.g., Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001; Harkness, Washburn, Theriault, Lee, & Sabbagh, 2011; Sharp, 2008).

Taken together, results from studies examining discrepancies in adolescents' and their parents' perceptions of the family suggest that in the short term, the stress and conflict associated with disagreements between family members may result in problematic outcomes

for the adolescent and the family as a whole. However, in the long term, discrepancies in perceptions appear to play a salient role in the process of adolescent individuation from the family and the realignment of family relationships. Nevertheless, it is premature to arrive at any firm conclusions given the limitations of the extant literature.

Limitations of the Literature

Recent work has greatly contributed to our understanding of discrepant adolescent-parent perceptions of family functioning and their implications for adolescent maladjustment. However, much of this work has relied on methodologically limited methods for measuring adolescent-parent discrepancies (for a review, see Laird & De Los Reyes, 2013). Specifically, investigations typically have relied on calculating mathematical differences between adolescent and parent reports (for a review, see De Los Reyes & Kazdin, 2004). The concern with this method is that analyses of these difference scores yield findings that do not meaningfully contribute additional information, beyond the individual reports used to create these scores. As such, Laird and Weems (2011) recommended examining adolescent-parent discrepancies using statistical tests of moderation between parent and adolescent reports. In essence, moderation tests examine whether the interaction between two informants' reports provides new information beyond the main effects of the individual informants' reports. In recent cross-sectional work, these interaction terms evidenced criterion validity, in that they yielded information consistent with direct assessments of informants' discrepant views (De Los Reyes, Salas, et al., 2013). Yet, we know of few longitudinal investigations that have used this approach to examine whether adolescent-parent discrepancies predict adolescent maladjustment (see De Los Reyes, Reynolds, Wang, MacPherson, & Lejuez, 2010; Laird & De Los Reyes, 2013), and we know of no previous investigation using this approach to predict adolescent anxiety. This gap is noteworthy given that anxiety is common during adolescence (Kashani & Orvaschel, 1990), with some studies finding up to one in four youth experiencing clinical anxiety disorders (Costello, Egger, & Angold, 2004).

Most research on adolescent-parent discrepancies in perceptions has focused on discrepancies in perceptions of the family unit. Less work has examined characteristics of the adolescent-parent relationship. One component of the adolescent-parent relationship that consistently has been linked to adolescent adjustment is communication. More specifically, during adolescence, positive, open adolescent-parent communication is related to indicators of healthy adolescent adjustment including self-esteem, empathic concern, and academic achievement (Enger et al., 1993; Heller, Robinson, Henry, & Plunkett, 2007; Masselam, Marcus, & Stunkard, 1990; Yu et al., 2006). In contrast, communication problems have been associated with indicators of maladjustment, such as depression, delinquency, and drug use (Cernkovich & Giordano, 1987; Kafka & London, 1991; Yu et al., 2006). Currently, it is not clear whether discrepant adolescent-parent perceptions of communication are related to adolescent adjustment.

The majority of studies examining discrepancies in adolescent-parent perceptions have focused on young adolescents (e.g., middle school students). Although these studies have been informative, it would be important to examine older adolescents who are more independent from the family given that theories relating to adolescent autonomy suggest that discrepancies in adolescent-perceptions should increase as the adolescent pushes for more autonomy (e.g., Baltes & Silverberg, 1994). If that is indeed the case, we would expect less discrepant perceptions between older adolescents and their parents and stabilized or decreased levels of family conflict.

Research conducted on discrepant adolescent-parent perceptions also has not adequately addressed gender differences. This oversight is unfortunate given that during adolescence,

girls have closer relationships with their family and are more sensitive to disruptions and conflict in their family environment in comparison to boys (Davies & Lindsay, 2004; Shek, 2007; Unger, Brown, Tressel, & McLeod, 2000). In addition, during adolescence, boys are expected to behave more autonomously and independently and to be less enmeshed in the family in comparison to girls (Papini & Micka, 1991; Shek, 2002). Because girls are more engaged in the family than are boys during adolescence (Gore, Aseltine, & Colten, 1993), girls may be more negatively affected by disagreements, conflict, and problems occurring within the family.

The Present Study

In light of the limitations of the existing literature, the present study was designed to provide a more systematic examination of the relation between discrepancies in adolescents' and their parents' perceptions of the family and adolescent adjustment (as indicated by anxiety symptomatology). This longitudinal study followed a community sample of older adolescents and their mothers over the course of one year to address the following research questions: (a) Do adolescents have more negative perceptions of the family than their mothers during late adolescence? (b) Do perceptions of the family (adolescent or mother) predict later adolescent anxiety symptomatology? (c) Do discrepancies in adolescents' and their mothers' perceptions of the family predict adolescent anxiety symptomatology? (d) Do these relations differ by the gender of the adolescent?

METHOD

Participants

All of the participants were involved in a larger research project focusing on adolescents and their families (Ohannessian, 2009). In the spring of 2007 (Time 1), 10th and 11th grade students attending public high schools in the Mid-Atlantic region of the United States (Delaware, Maryland, and Pennsylvania) were invited to participate in the study. The participants were followed up 1 year later in the spring of 2008 (Time 2). The sample included 145 adolescents (83 girls, and 62 boys). At Time 1, the mean age of the adolescents was 15.99 years ($SD = .70$, range = 15-18). Seventy-five percent of the adolescents were European American, 12% were African American, 7% were Latin American, and 2% were Asian American (the rest described themselves as "other"). These percentages are reflective of the area from which the sample was drawn (71% European American, 23% African American, 4% Asian American, 7% Latin American; U.S. Census Bureau, 2008). The majority of the adolescents (72%) lived with both of their biological parents (96% of the adolescents lived with their biological mother, 73% lived with their biological father). Most of the mothers (96%) and fathers (99%) had graduated from high school. Some of the parents also had completed two years of college (19% of mothers and 16% of fathers) or four years of college (35% of mothers and 27% of fathers). A minority of the parents (13% of mothers and 15% of fathers) had attended graduate or medical school.

Procedures

At Time 1, students who provided assent and had parental consent, were administered a self-report survey in school by trained research staff (all of whom were certified with human subjects training). Seventy-one percent of the adolescents attending the participating schools completed the survey. Most of the students who did not participate were absent on the day that the survey was administered. Only 3% of the adolescents who were present declined to participate.

Prior to data collection, the adolescents were reassured that participation was voluntary, that the data collected were confidential, and that they could withdraw from the study at any

time. Participants also were informed that an active Certificate of Confidentiality from the U.S. government would further protect their privacy. The adolescent survey included measures relating to the family, coping, extracurricular activities, media use, and their own and their parents' substance use and psychological problems. The survey took approximately 40 min to complete. Upon completion of the survey, the adolescents were given a movie pass for their participation. All participants were invited to participate again the following spring (Time 2). The same protocol (approved by the University of Delaware's Institutional Review Board) was used at that time.

At both times of measurement, parents of participating youth were mailed a packet with an invitation to participate in the study. Their packet included a cover letter, a consent form, a parent survey, and a prepaid envelope for the return of the survey. The parent survey included measures relating to the family and their own and their adolescent's substance use and psychological problems. Upon receipt of the survey, parents were mailed a \$20 gift card. Although both mothers and fathers were invited to participate in the larger project, the response rate from fathers was relatively low ($n = 67$, 46%, at Time 1). Therefore, only adolescents and their mothers ($n = 145$ adolescent-mother dyads) were included in this study. However, a focus on discrepancies between mother and adolescent reports is in keeping with prior work in the informant discrepancies literature (see De Los Reyes, Ehrlich et al., 2013; De Los Reyes, Goodman et al., 2008, 2010; Laird & De Los Reyes, 2013).

Measures

All participants completed a demographic questionnaire. This questionnaire included items relating to age, gender, ethnicity, and education. Additional measures from the larger project that were used in this study are discussed in detail below.

Adolescent-mother communication—The *Adolescent-Parent Communication Scale* (PACS; Barnes & Olson, 2003) was administered to both adolescents and mothers. Adolescents and mothers responded to the same 20 items. A representative item is “I find it easy to discuss problems with my child/mother.” The response scale ranges from 1 = *strongly disagree* to 5 = *strongly agree*. The PACS includes subscales that tap open communication and problems in communication. A total score (reversing problems in communication items) also may be calculated. Total communication scores, obtained separately for adolescents and mothers, were used in this study. Prior research has supported the construct validity of this measure (Barnes & Olson, 2003). In the current sample, Cronbach alpha coefficients were .90 at Time 1 and .91 at Time 2 for the adolescents' reports and .88 at Time 1 and .89 at Time 2 for the mothers' reports, respectively.

Family satisfaction—Family satisfaction was assessed with seven items from the *Family Satisfaction Scale* (FSS; Olson & Wilson, 1989), completed by both adolescents and mothers. A representative item is “How satisfied are you with how close you feel to the rest of your family?” The response scale ranges from 1 = *dissatisfied* to 5 = *extremely satisfied*. Separate family satisfaction scores were calculated for adolescents and mothers. Previous studies have provided evidence supporting the validity of the FSS (Olson, 2011). In the present study, Cronbach alpha coefficients were .90 at Time 1 and .91 at Time 2 for the adolescents' reports and .83 at Time 1 and .89 at Time 2 for the mothers' reports.

Adolescents' reports of their own anxiety symptoms—The *Screen for Child Anxiety Related Disorders* (SCARED; Birmaher, Khetarpal, Cully, Brent, & McKenzie, 1995) was administered to the adolescents to assess their anxiety. The SCARED items are completed in reference to the last 3 months. Sample items are “I get really frightened for no reason at all” and “I am nervous.” The SCARED response scale ranges from 0 = *not true or*

hardly ever true to 2 = very true or often true. In the present study, the 41 SCARED items were summed to create a total anxiety symptomatology score. Previous studies have demonstrated that the SCARED has good psychometric properties (Birmaher, Khetarpal, Cully, Brent, & McKenzie, 2003; Muris, Merckelbach, Ollendick, King, & Bogie, 2002). The Cronbach alpha coefficients for the SCARED total score in this sample were .93 at Time 1 and .94 at Time 2.

Analysis Plan

As a first step, paired-samples *t*-tests were conducted by adolescent gender to compare adolescent and mother reports of communication and family satisfaction. To test our main research questions, we conducted two multiple hierarchical regression analyses, one for adolescent and mother reports for each domain of family functioning examined (i.e., communication and family satisfaction). Because prior work has found gender differences in adolescent-parent discrepancies in perceptions of the family (Ohannessian et al., 1995, 2000), we examined the research questions separately by adolescent gender. Regression models also were conducted including gender in the interaction terms to examine whether gender plays a significant moderating role. In these analyses, the 3-way interaction between adolescent-reported communication, mother-reported communication, and gender was significant ($\beta = .91, p < .05$). Similarly, the 3-way interaction between adolescent-reported family satisfaction, mother-reported family satisfaction, and gender was significant ($\beta = .93, p < .05$). However, for the sake of parsimony and ease of interpretation, the regression results are presented separately by gender. In each analysis, the SCARED total score (assessed at Time 2) was the dependent variable. For communication, standardized adolescent and mother reports of communication (assessed at Time 1) each were entered as main effects in the first step as independent variables. In the second step, the interaction between standardized adolescent and mother reports of communication was entered as an independent variable to examine whether the interaction between reports explained variance above the main effects. We followed the same analytic procedures to examine adolescent-mother discrepancies in reports of family satisfaction.

In the presence of a significant interaction effect, we used Holmbeck's (2002) guidelines for post-hoc probing of significant moderator effects. This included examining the slopes at high (1 *SD* above the mean) and low (1 *SD* below the mean) levels of the moderator variable.

RESULTS

Descriptive Analyses of the Family Variables

Paired-samples *t*-tests were conducted, by adolescent gender, to examine mean differences in the family variables for adolescents and their mothers. At Time 1, adolescent girls reported significantly less satisfaction with their family in comparison to their mothers ($t(69) = 2.16, p < .05$; girls' $M = 24.47$, mothers' $M = 26.19$). No difference in family satisfaction was found for boys. At Time 1, both adolescent girls and boys reported less positive adolescent-mother communication than their mothers, $t(62) = 4.26, p < .001$; girls' $M = 70.60$, mothers' $M = 78.73$; $t(49) = 5.76, p < .001$; boys' $M = 66.78$, mothers' $M = 78.00$, respectively. At Time 2, perceptions of family satisfaction between adolescents (both girls and boys) and their mothers did not differ from one another. However, adolescent girls and boys continued to perceive less positive adolescent-mother communication in comparison to their mothers, $t(47) = 2.45, p < .05$; girls' $M = 70.71$, mothers' $M = 78.19$; $t(36) = 3.34, p < .01$; boys' $M = 69.24$, mothers' $M = 77.68$, respectively.

Regression Models Predicting Girls' Anxiety from the Family Variables

For girls, we observed a significant and negative main effect for adolescent-reported communication, a non-significant main effect for mother-reported communication, and a significant interaction between these variables (see Table 1). The significant main effect indicated that girls reporting less positive adolescent-mother communication reported higher levels of anxiety 1 year later ($\beta = -.34, p < .05$). The significant interaction illustrated that this relation depended on mother-reported communication. As shown in Figure 1, there was no relation between adolescent-reported communication and adolescent anxiety symptoms at relatively high levels of mother-reported communication. In contrast, at low levels of mother-reported communication, a significant relation between adolescent-reported communication and adolescent anxiety symptoms was observed.

We also observed a significant and negative main effect for adolescent-reported family satisfaction, a non-significant main effect for mother-reported family satisfaction, and a significant interaction between these variables (see Table 1). The significant main effect indicated that girls reporting less family satisfaction had higher levels of anxiety 1 year later ($\beta = -.34, p < .05$). Similar to the results for communication, the significant interaction illustrated that this relation depended on mother-reported family satisfaction. As illustrated in Figure 2, no relation between adolescent-reported family satisfaction and adolescent anxiety symptoms was observed at high levels of mother-reported family satisfaction; however, a significant relation between adolescent-reported family satisfaction and adolescent anxiety was found at low levels of mother-reported family satisfaction.

Regression Results Predicting Boys' Anxiety from the Family Variables

For boys, we observed non-significant main effects for both adolescent- and mother-reported communication in relation to adolescent anxiety symptoms, as well as a non-signification interaction between these variables. Similarly, we observed non-significant main and interaction effects for adolescent and mother-reported family satisfaction.

DISCUSSION

A primary aim of the present study was to examine whether adolescents have more negative perceptions of the family in comparison to their mothers during late adolescence. Consistent with prior work focusing on younger adolescents (Gaylord et al., 2003; Laird & De Los Reyes, 2013; Ohannessian et al., 1995, 2000; Reynolds, MacPherson, Matusiewicz, Schreiber, & Lejuez, 2011; Yu et al., 2006), the adolescents in this study were found to view the family more negatively than their mothers. More specifically, adolescents reported less positive communication than their mothers at both times of measurement. In addition, adolescents reported being less satisfied with their family in comparison to their mothers at Time 1, when the mean age of the adolescents was 16 years. One year later, differences in family satisfaction were not observed between adolescents and their mothers. The latter finding is consistent with the tenet that discrepancies are closely linked to the development of autonomy and the realignment of family relationships (Holmbeck & O'Donnell, 1991; Montemayor & Flannery, 1991; Shek, 2002; Steinberg, 1991). As adolescence progresses and the adolescent achieves increasing amounts of autonomy, discrepancies in perceptions and associated conflict should decrease. Such changes, in turn, should increase family satisfaction.

Another goal of this study was to examine whether perceptions of the family (adolescent or mother) predict later adolescent anxiety symptomatology. In line with prior work examining younger adolescents (Ohannessian, Lerner, Lerner, & von Eye, 1996; van Oort, Verhulst, Ormel, & Huizink, 2010), adolescent girls' perceptions of communication and family

satisfaction negatively predicted later adolescent anxiety symptomatology. These results indicated that girls reporting less positive adolescent-mother communication and less family satisfaction reported more anxiety symptoms 1 year later. In contrast, boys' perceptions of the family did not predict later anxiety symptoms. These findings are consistent with theory and research that indicate that, during adolescence, girls may be more sensitive to family stress and conflict than boys (Davies & Lindsay, 2004; Unger, Brown, Tressel, & McLeod, 2000). Girls also tend to be more enmeshed in the family than boys during adolescence (Gore, Aseltine, & Colten, 1993) and subsequently may be more negatively affected by family problems than are boys.

It also should be noted that an association between mothers' perceptions of the family and adolescent anxiety may not have been observed because we relied on adolescents' self-reports of their anxiety. Indeed, mothers may not have access to observations of adolescents contexts in which adolescents base their anxiety self-reports (e.g., school settings; see Comer & Kendall, 2004) and may be relatively unaware of anxiety symptoms in their adolescent. In fact, when clinical interviewers probe adolescents on the issue of why their parents might not report symptoms that adolescents self-endorse as present, adolescents tend to believe that this disagreement arises because their parents have not observed the symptoms (e.g., Bidaut-Russell et al., 1995). That is, adolescents reason that they express symptoms in contexts within which their parents cannot directly observe. Thus, we encourage future work seeking to replicate and extend our findings to take a multi-informant approach to assessing adolescent anxiety.

A primary goal of this study was to examine the relation between discrepancies in adolescents' and their mothers' perceptions of the family and adolescent anxiety symptoms. Consistent with the recommendations of Laird and Weems (2011), adolescent-parent discrepancies were examined using statistical tests of moderation between adolescent and parent reports. These moderation analyses examined whether the interaction between adolescents' and mothers' reports yielded additional information beyond the main effects of the individual reports. For girls, a significant interaction was found between adolescents' reports of their communication with their mothers and mothers' reports of communication with their adolescents. Probing of this interaction revealed that at relatively low levels of mother-reported communication, adolescent-reported communication was negatively related to adolescent anxiety symptoms. However, adolescent-reported communication was unrelated to adolescent anxiety at high levels of mother-reported communication. These results suggest that when mothers report a high level of communication with their adolescent, the adolescent's perception of their communication is irrelevant. However, when the mother reports a low level of communication, discrepant perceptions with the mother are adaptive, such that adolescents who perceive high levels of communication with their mother have relatively lower levels of anxiety. A similar pattern was found for family satisfaction for girls. Taken together, these results suggest that adolescents who do not share their mother's negative view of the family are protected in regard to anxiety symptomatology.

The interaction results for girls are consistent with research that has suggested that discrepancies between adolescents' and their parents' perceptions of the family may be adaptive (Butner et al., 2009; Calson, Cooper, & Spradling, 1991). In the present study, when mothers' reports of the family were negative, girls with more positive perceptions of the family had lower levels of anxiety. In a sample including younger adolescents, Holmbeck and O'Donnell (1991) similarly found discrepancies in adolescent and mother perceptions of decision making to be related to lower levels of adolescent internalizing symptomatology. Furthermore, in a novel study examining young adolescents with diabetes, Butner and colleagues (2009) found that discrepancies between adolescent and parent

perceptions of adolescent competence in caring for his/her diabetes were associated with increased levels of adolescent autonomy. Taken together, these findings indicate that in some instances discrepancies in adolescents' and parent's perceptions may be adaptive for adolescents.

In the present study, significant interactions between perceptions of the family and adolescent anxiety were not found for boys. As mentioned previously, the null results for boys simply may reflect boys' increased emotional distance from the family during adolescence relative to girls (Gore, Aseltine, & Colten, 1993; Unger, Brown, Tressel, & McLeod, 2000). Research also has indicated that during adolescence, girls are more sensitive to disruptions and conflict within their family environments in comparison to boys (Davies & Lindsay, 2004; Unger et al., 2000). The gender difference observed in this study is consistent with theories such as Gilligan's (1983), which suggest that the development of the self is more closely linked to attachment and relationships with others for girls than for boys. According to Gilligan, emotionally separating from others is more important for boys. As such, boys may be less affected or less in tune with their mothers' perceptions of the family.

Although the present study contributes to the literature by using methodologically sound techniques to examine the association between mothers' and older adolescents' discrepancies in perceptions of the family and adolescent anxiety over time, some caveats should be noted. Consistent with the majority of studies within this area, parental data relied on mothers' reports. Fathers were invited to participate in the larger project; however, the response rate from fathers was low. As such, only adolescents and their mothers were included.

Because fathers were not included, we can only speculate about the different gender patterns that may have emerged had fathers been included. According to some theoretical perspectives (e.g., social learning theory), children and adolescents are more likely to observe and imitate their same-sex parent (Bussey & Bandura, 1984). Research examining adolescent psychopathology also has indicated that psychopathology in the same-sex parent has a greater impact on adolescent adjustment than psychopathology in the opposite-sex parent (e.g., Crawford, Cohen, Midlarsky, & Brook, 2001). Consistent with this theoretical reasoning and research, it may be hypothesized that discrepancies in adolescent-father communication would be associated with maladjustment (e.g., higher anxiety levels) for boys, but not for girls. This line of reasoning might explain the null findings for boys in the present study. Clearly future research including fathers needs to be conducted to appropriately address this hypothesis.

The outcome measure in this study was adolescent anxiety symptomatology. Although both girls and boys may experience anxiety during adolescence, girls are more likely than boys to respond to stressors with internalizing symptoms such as anxiety; in contrast, boys are more likely to respond to stressors with externalizing symptoms (Grant, Compas, Thurm, McMahon, Gipson, Campbell, Krochock, & Westerholm, 2006). As such, it would be important for future research to replicate the present study with other indicators of adolescent adjustment, including externalizing outcomes. All of the participants resided in the Mid-Atlantic region of the United States. Therefore, the results may not be generalized to adolescents living outside of this area.

Finally, social desirability or some other reporting bias may have diminished the validity of informants' reports. In turn, this decreased validity in one set of informants' reports (e.g., adolescents) might have led to their reporting lower levels of assessed behaviors relative to the other set of informants' reports (e.g., parents). This is not an insignificant issue, as even

trained mental health professionals perceive children and adolescents as less reliable or credible reporters when they self-report behavioral and emotional concerns at lower levels relative to parent reports (De Los Reyes, Youngstrom et al., 2011). Recent work has tested these issues in the context of adolescent self-reports of social anxiety symptoms. In a study conducted by De Los Reyes et al. (2012), adolescents referred for a clinical evaluation for social anxiety self-reported lower levels of social anxiety relative to their parents. These adolescents' self-reports also evidenced little-to-no correspondence with objective measures of psychophysiology (i.e., during a baseline psychophysiological assessment). Despite these differences between adolescent self-reports and the reports from other sources (e.g., parents, psychophysiology), adolescents provided internally consistent self-reports of social anxiety symptoms that evidenced convergent validity and could differentiate those adolescents referred for a clinical evaluation from adolescents in an age- and gender-matched healthy community control group. This work converges with prior work indicating that parents and children evidence higher rates of correspondence on symptom endorsements within independent diagnostic interviews for behavioral avoidance symptoms expressed at home versus worry symptoms expressed at school (Comer & Kendall, 2004). Overall, a number of investigations across various informant pairs (e.g., parent and adolescent; parent and teacher) indicate that, when pairs of informants evidence low levels of correspondence between their reports, this low level of correspondence appears accounted for, in part, by differences between informants in the opportunities they have for observing the behaviors being assessed (e.g., home versus school settings; for reviews see Achenbach et al., 1987; De Los Reyes, 2011; De Los Reyes & Kazdin, 2005; De Los Reyes, Thomas, Goodman, & Kundey, 2013; Kraemer et al., 2003). Thus, the extant literature suggests that social desirability or some other characteristic that might degrade the validity of informants' reports are unlikely to account for our observed effects.

The present study extends the literature in many respects. The sample was drawn from the community and included older adolescents (an overlooked group). An additional strength is that cross-informant data were used. In contrast to the majority of studies examining adolescent development, both adolescents and mothers reported on family functioning. Given that different family members have different perspectives regarding the family, caution should be taken when data are collected from only one family member. In contrast to most of the prior work in the field, this study was also longitudinal, enabling the examination between adolescent-mother perceptions of the family and adolescent adjustment over time. In conclusion, findings from this study are consistent with contemporary developmental theories (e.g., relational developmental systems theories; Lerner, 2006; Lerner et al., 2011; Lerner & Overton, 2008) which purport that development results from complex, dynamic, interactions between the individual and the context that unfold over time.

IMPLICATIONS FOR PRACTICE, APPLICATION, AND POLICY

Consistent with our findings, in community mental health clinics and in the treatment of child and adolescent mental health, child and adolescent patients tend to identify family functioning as a target of treatment to a greater extent than do their parents (Hawley & Weisz, 2003). Researchers have theorized that if parents and patients do not agree on treatment goals, patients may be at increased risk for poor treatment response (Yeh & Weisz, 2001). In fact, when parents and patients correspond on at least one concern to target in treatment and relative to no correspondence, the family tends to make greater therapy visits (Brookman-Frazee, Haine, Gabayan, & Garland, 2008). Similarly, when therapists encounter discrepant perceptions of the family among parents and patients, a key goal of beginning therapy might involve efforts to achieve some concordance between parents and

patients on targeting family functioning concerns identified by the patient, in addition to concerns identified by the parent (see also Yeh & Weisz, 2001).

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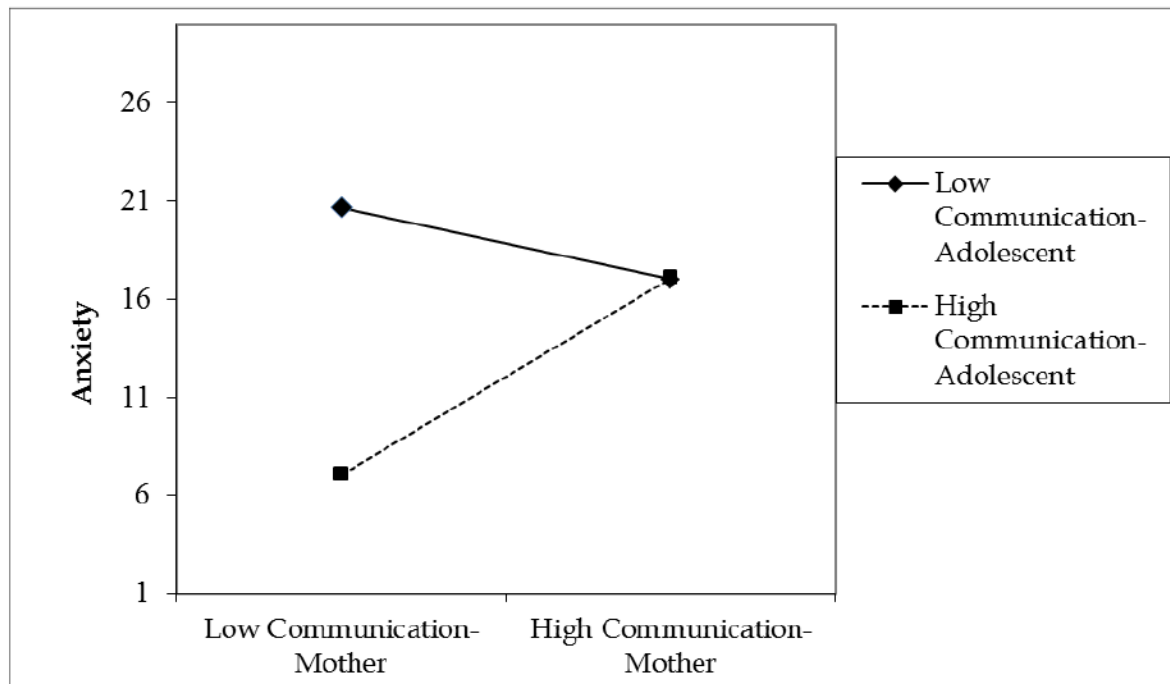


FIGURE 1. The interaction between adolescent and mother reports of communication on adolescent anxiety

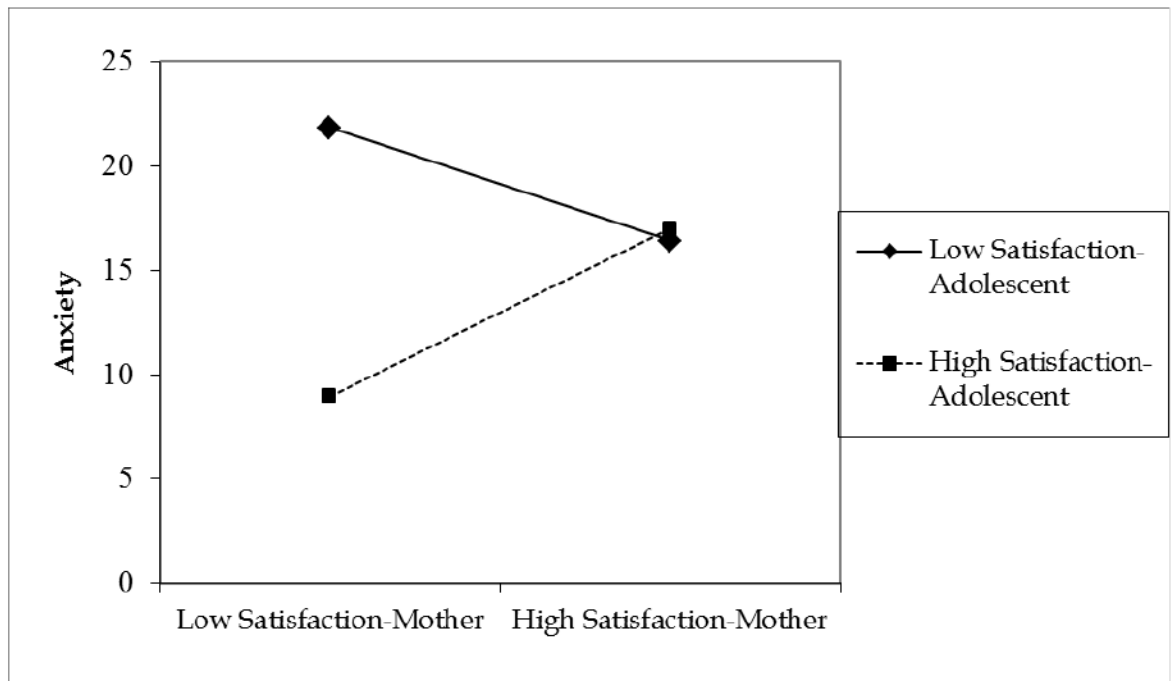


FIGURE 2.
The interaction between adolescent and mother reports of satisfaction on adolescent anxiety

Table 1
 Hierarchical Regression Analyses Examining the Utility of Adolescent-Mother Reporting Discrepancies of Family Satisfaction and Communication in Predicting Adolescent Girls Self-Reported Anxiety Symptoms

Variable	Communication				Family Satisfaction			
	ΔR^2	B	SeB	β	ΔR^2	B	SeB	β
Step 1	.07				.06			
Communication, Adolescent Report		-2.60	1.58	-.26		-2.16	1.31	-.24
Communication, Mother Report		1.72	1.45	.19		.93	1.26	.11
Step 2	.18*				.23**			
Communication, Adolescent Report		-3.38	1.54	-.34*		-3.07	1.23	-.34*
Communication, Mother Report		1.58	1.38	.17		.65	1.15	.08
Adolescent Report \times Mother Report		3.42	1.48	.34*		3.37	1.04	.43**

* $p < .05$;

** $p < .001$.