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Single Mother Parenting and Adolescent Psychopathology

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Abstract

Children raised in single-mother families are at increased risk for psychopathology, but the mechanisms that help explain this relationship are understudied. In a community sample of diverse adolescents (N= 385, 52% female, 48% Caucasian) and their mothers, we hypothesized that single mothers would be more likely than cohabitating mothers to engage in negative parenting behaviors, which would predict adolescent psychopathology prospectively. Single mothers were more likely to engage in psychologically controlling behaviors, which predicted to their adolescent offspring experiencing higher rates of depressive symptoms and externalizing disorders. Girls were more susceptible to depressive symptoms via psychologically controlling parenting than boys in single-mother families. Further, single mothers were more likely to engage in rejecting parenting behaviors, which predicted to a higher prevalence of adolescent externalizing disorders. Surprisingly, rejection in single-mother families predicted to less severe anxiety symptoms in adolescents relative to two-parent families. It is likely that single mothers are not inherently inferior parents relative to cohabitating mothers; rather, their parenting practices are often compromised by a myriad of demands and stressors. Consistent with this postulate, low socioeconomic status was associated with single motherhood and negative parenting behaviors. Clinical implications and study limitations are discussed.

Keywords

single mother; parenting; adolescence; depression; anxiety; externalizing

Approximately one in three children live in a single-parent family in the United States, with the majority of families (83%) headed by a mother (Vespa, Lewis, & Kreider, 2013). Although single fathers are a growing demographic who exhibit distinctive influences on child development (Amato, 2001; Amato & Keith, 1991; Hilton & Devall, 1998), research has predominately focused on single mothers given their greater prevalence. Unfortunately, much of the evidence suggests that single-mother families tend to be disadvantaged at systemic and individual levels relative to two-parent families (Kendig & Bianchi, 2008). Single-mother families are far more likely to experience poverty than two-parent families

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due to the loss of a partner's finances, lower maternal educational attainment, and discriminatory wages against women (Cherlin, 1992; Goodrum, Jones, Kincaid, Cueller, & Parent, 2012). Further, members of single-mother families spend less time together because of additional obligations that mothers and their children have in the absence of an additional primary caretaker (Kendig & Bianchi, 2008). The disruptions that the family as a system experiences often compound with maladjustments that individual family members experience. More specifically, single mothers are more likely than cohabitating mothers (mothers who live with a spouse or partner; Kendig & Bianchi, 2008) to experience episodic and chronic depression, anxiety, substance abuse, stressful life events, low self-esteem, social isolation, and lack of emotional support (Lipman, Offord, & Boyle, 1997; McBride-Murry, Bynum, Brody, Willert, & Stephens, 2001).

In addition to affecting familial processes and maternal adjustment, single-mother families confer vulnerability to a myriad of negative outcomes for children (Schleider, Chorpita, & Weisz, 2014). Across numerous studies, children raised in single-mother families are at heightened risk for substance abuse, depression, anxiety, and externalizing behaviors and disorders (Amato & Keith, 1991; Aseltine, 1996; Dodge, Petit, & Bates, 1994; Hilton & Devall, 1998; Schleider et al., 2014). Taken together, previous research depicts an unfortunate circumstance in which single mothers, who are often distressed from excessive responsibilities (Ceballo & McLoyd, 2003) and fiscal constraints (Cherlin, 1992), are primary caretakers of children who are at increased risk for internalizing and externalizing problems.

Achieving a better understanding of why children of single mothers are at increased risk for maladjustment is a worthwhile research endeavor, as elucidating mechanisms that help explain this relationship can better inform clinical interventions. Unfortunately, research on potential mechanisms has been quite limited. Although poverty and maternal psychopathology are more broadly predictive of youth psychopathology (Goodman & Gotlib, 1999; Lipman & Offord, 1994), single motherhood remains a significant predictor when controlling for these effects (Dodge, Petit, & Bates, 1994). Additionally, single-mother families can be preferable childhood environments to parental cohabitation if there are severe inter-parental conflicts (Amato & Keith, 1991). Thus, investigating potential mediators can also help differentiate children who are well-adjusted from those who are maladjusted in single-mother families. As many etiological models of childhood psychopathology incorporate the role of parenting (e.g., Bowlby, 1977; Chorpita & Barlow, 1998), we hypothesized that parenting behaviors would mediate the relationship between single motherhood and youth psychopathology. Parenting behaviors, which are differentiated from the more general categories of parenting styles, refer to specific parenting actions employed by parents when engaging with their child. Research has identified two orthogonal dimensions of parenting behaviors that are consistently associated with youth mental illness: involvement and negative control (Alloy et al., 2001; Schaefer, 1965a).

Involvement reflects the extent to which parental behaviors are emotionally supportive, engaged, and actively interested in the child's experiences and activities (Schaefer, 1965b). Involving parenting behaviors form a continuum from warmth/acceptance to rejection/ hostility. Mothers who are characterized as high on involvement display love appropriately

and often, hold favorable attitudes toward their children, and offer positive evaluations. Mothers who exhibit less involvement, and thus more hostility and rejection, are overly critical, communicate ineffectively and infrequently, show little compassion, and offer minimal emotional support. From early childhood through adolescence, and across clinical and nonclinical samples, maternal rejection is significantly associated with youth depressive, externalizing, and anxiety diagnoses and symptoms (Burge & Hammen, 1991; Garber, Robinson, & Valentiner, 1997; Goodrum et al., 2012; Hale, Engels, & Meeus, 2006).

The parenting dimension of negative control encompasses the extent to which a mother attempts to guide child behavior in psychologically detrimental ways, ranging from psychological autonomy granting to psychological control (Schaefer, 1965b). A mother who engages in less negatively controlling behaviors allows her child to form developmentally-appropriate levels of independence. In contrast, a mother who is more psychologically controlling restricts her child's ability to develop a healthy sense of autonomy by expressing disappointment frequently, utilizing guilt and coercion to influence child behaviors, and employing excessively harsh discipline for mistakes. In the anxiety literature, the parenting construct of overprotection is considered a subtype of psychological control (Clarke, Cooper, & Creswell, 2013). Paralleling research on maternal rejection, higher levels of maternal psychological control are associated with increased levels of youth depression, anxiety, and externalizing problems (Garber et al., 1997; Loeber & Stouthamer-Loeber, 1986; Muris & Merckelbach, 1998; Pettit, Laird, Dodge, Bates, & Criss, 2001; van der Bruggen, Stams, Bogels, & Paulussen-Hoogeboom, 2010).

Thus, high levels of maternal negative control and low levels of involvement are significantly associated with, and predictive of, youth psychopathology (for reviews, see McCleod, Weisz, & Wood, 2007; McCleod, Wood, & Weisz, 2007; Rapee, 1997). Furthermore, single mothers are more likely than cohabitating mothers to parent with rejecting and psychologically controlling behaviors (Amato, 1993; Hilton & Devall, 1998; Kincaid, Jones, Cuellar, & Gonzalelz, 2011; McBride-Murry et al., 2001). Although several studies have found that youth are more susceptible to psychosocial maladjustment in single-mother families due to negative parenting (Goodrum et al., 2012; Hilton & Devall, 1998; Kincaid et al., 2011), there remain gaps in this limited body of research that we aim to address in the current study. The vast majority of research has compared children of divorced and intact two-parent families (Amato & Keith, 1991; Hilton & Devall, 1998), but many single-mothers are single in the absence of divorce (e.g., widowed, never married, spouse is absent from home). Similarly, whereas most studies have focused exclusively on low-income African-American families (Goodrum et al., 2012), it is important to understand the influence of parenting across demographically diverse families. Moreover, single-mother family research has predominately focused on youth behavioral problems rather than psychopathological symptoms and disorders, which are especially critical to study to help guide clinical interventions. Finally, prior research has not tested for the moderating role of gender when examining the influence of parenting in single-mother families, which is important because parenting practices may differentially influence girls and boys, and thus, confer unique risk based on child gender (Brody & Flor, 1998).

For the present study, we hypothesized that single mothers would be more likely than cohabitating mothers to engage in rejecting (i.e., less involvement) and psychologically controlling parenting behaviors, which would predict prospective adolescent psychopathological disorders and symptoms. It is important to note that we did not formulate our hypotheses under the notion that single mothers are inferior parents relative to cohabitating mothers. However, many factors, such as increased rates of poverty, familial stress, and parenting responsibilities (Jackson, Preston, & Franke, 2010), create additional challenges for single motherhood, rendering a mother's job incredibly demanding and difficult.

Hypotheses

(1) Single mothers would parent with more negatively controlling (i.e., psychologically controlling), and less involving (i.e., rejecting) behaviors with their adolescent children than cohabitating mothers. (2) Single mothers would have adolescent children who experience more depressive symptoms and diagnoses prospectively, mediated by greater levels of maternal psychological control and rejection. (3) Single mothers would have adolescent children who experience more anxiety symptoms and diagnoses prospectively, mediated by greater levels of maternal psychological control and rejection. (4) Single mothers would have adolescent children who are more likely to prospectively meet criteria for an externalizing disorder, mediated by greater levels of maternal psychological control and rejection. We also explored whether gender moderated any significant mediation effects from Hypotheses 2 – 4.

Method

Recruitment

Participants included mothers or primary female caregivers (collectively referred to as "mothers" because 93% were biological mothers) and their adolescent children. Mother-youth dyads were recruited from Philadelphia and its surrounding neighborhoods, encompassing a community that is racially and socioeconomically diverse (Caucasian = 45.7%, median income = $37,016, 26.2% below the poverty line; U.S. Census Bureau, 2012). Participants were recruited by mailing study information to parents of children in Philadelphia-area middle schools (68% of the sample) and through advertising in local newspapers (32% of the sample). Inclusion criteria specified adolescents are 12 to 13 years old at baseline, identify as Caucasian or African American, and have a mother that lives with the child and can participate in the study. Dyads were excluded if the mother or child had a severe developmental or learning disability, were experiencing psychosis, or were unable to read or speak English sufficiently to complete assessment materials.

Participants

The study sample consisted of 385 mothers (Mean age, baseline = 42.06 years, SD = 7.08 years) and their children (Mean age, baseline = 12.85 years, SD = 0.61 years). Adolescents were evenly represented across self-identified gender (52.7% female) and race (49.0% Caucasian). Approximately 48% of families in the study qualified for school subsidized

lunch, an indicator of low socioeconomic status that takes into account family income and the number of dependents in the household. Demographic information provided by the mothers was used to determine if a mother was a single mother (n = 157) or a cohabitating mother (n = 228). Single-mother status was identified if there was no father, stepfather, or significant other (including same-sex partners) in the family. Maternal relationship status was relatively consistent across the duration of the study, as only 4.6% of single mothers became cohabitating, and 4.7% of cohabitating mothers became single.

Procedure

Participants eligible for the study were invited to the laboratory, where they were briefed on the study procedures. All study procedures were approved by Temple University's Institutional Review Board. Written consents and assents (for mothers and their children, respectively) were obtained before completion of study measures. At the baseline visit, mothers and their adolescents provided demographic information, and were independently interviewed about the youths' current clinical diagnoses. Mothers completed measures assessing stressful events that happened during their adolescent's childhood, as well as their parenting behavior patterns over the past year; youth participants completed questionnaires about their current anxious and depressive symptoms.

Follow-up visits occurred over the course of 6 months to 3 years. Anxiety and depression symptom questionnaires were administered to the adolescents at each 6-month follow-up, whereas diagnostic interviews were conducted yearly. Thus, participants in this sample who completed all follow-up visits had 6 prospective time points of anxious and depressive symptom questionnaires, and 3 prospective time points of diagnostic interviews.

Measures

Maternal Parenting Behaviors—The Children's Report of Parental Behavior Inventory (CRPBI; Schaefer, 1965a) is a self-report scale that assesses parenting behaviors. This study utilized a short-form 90-item version of the CRPBI (Raskin, Boothe, Reatig, Schulterbrandt, & Odle, 1971). Items load onto three orthogonal dimensions: acceptance versus rejection (involvement), psychological autonomy versus psychological control (negative control), and firm control versus lax control (lax discipline). Although originally created for administration with children, several studies have concluded that maternal and youth reports are significantly correlated on all three dimensions (Alloy et al., 2001; Schwarz et al., 1985). Mothers were instructed to rate statements about their own parenting behaviors over the past year as *not like me*, *somewhat like me*, or *a lot like me*. We excluded the lax discipline subscale from analyses, as it was not theoretically related to our hypotheses. Internal consistencies for the current study yielded α's of .79 (involvement) and .80 (negative control).

Adolescent Psychopathology—The Kiddie-Schedule for Affective Disorders and Schizophrenia-Epidemiological Version (K-SADS-E; Orvaschel, 1995) is a semi-structured clinical interview that assesses psychopathology in children and adolescents (4th ed., text rev.; *DSM–IV–TR*; American Psychiatric Association, 2000). The interview was conducted with adolescents and their mothers independently to assess adolescents' current diagnoses.

Postdoctoral fellows, clinical psychology doctoral students, and post-baccalaureate research assistants conducted the interviews after roughly 200 hours of didactic and applied training. Interrater reliability based on 120 pairs of ratings (ten interviews with 24 total diagnoses, rated by five interviewers) was $\kappa = .85$.

The presence of an externalizing disorder was determined if an adolescent met *DSM-IV-TR* criteria for attention-deficit hyperactivity disorder (ADHD), conduct disorder (CD), or oppositional defiant disorder (ODD). An adolescent met for a depressive disorder if they met criteria for dysthymia, major depressive disorder, or sub-threshold major depressive disorder. Sub-threshold diagnoses were given if an adolescent endorsed five or more depressive symptoms for greater than one week but less than two weeks, or endorsed three or four symptoms for at least two weeks. Adolescents who met criteria for separation anxiety disorder, panic disorder, any phobic disorder (specific or social), or generalized anxiety disorder were collectively referred to as having an anxiety disorder.

Adolescent Depressive Symptoms—The Children's Depression Inventory (CDI; Kovacs, 1985) is a 27-item questionnaire that assesses depressive symptoms in children ages 7 to 17 years old. Items (which reflect cognitive, affective, and behavioral symptoms of depression) were rated by adolescents over the past two weeks on a 0 to 2 scale, with total scores ranging from zero to 54 and higher scores indicating the presence of more severe depressive symptoms. The CDI has demonstrated sufficient construct validity and internal consistency in a myriad of studies (see Klein, Dougherty, & Olino, 2005). Cronbach's alpha for our study yielded α's = .85, .83, and .80 for baseline, first follow-up, and last follow-up, respectively.

Adolescent Anxiety Symptoms—The Multidimensional Anxiety Scale for Children (MASC; March, Parker, Sullivan, Stallings, & Conners, 1997) is a self-report questionnaire that assesses youth anxiety symptoms. The 39 items yield a total score, as well as factor into four main subscales: social anxiety, separation anxiety/panic, harm avoidance, and physical symptoms. We utilized the MASC total anxiety score for all analyses and explored subscales if differences by group were exhibited on the total anxiety score. Adolescents reported symptoms they experienced over the past two weeks using a 4-point Likert-type scale, ranging from *never true* (0) to *often true* (3). The MASC is considered one of the most psychometrically sound anxiety scales (Baldwin & Dadds, 2007), demonstrating sufficient test-retest reliability and convergent validity with other anxiety scales (March et al., 1997). Internal consistencies in our study yielded α's of .86 (total anxiety, baseline), .80 (total anxiety, first follow-up), and .82 (total anxiety, last follow-up).

Childhood Stressful Events—The Children's Life Events Scale (CLES; Crossfield, Alloy, Gibb, & Abramson, 2002) is a 50-item checklist of various negative events that children may experience. The items, which range from moderately to majorly severe events, are categorized in the following domains: negative emotional feedback, family deaths, maltreatment, achievement-related failures, experiences of inadequacy, disruptions of family structure, and parental hardships. The current study utilized a total score on the CLES, representing the summation of negative life events endorsed as occurring during childhood. Mothers were asked to identify stressful events that had occurred in their child's life from

birth to the baseline visit; youth were not administered the checklist because many early-life events may be difficult for youth to accurately report. The CLES is an expanded form of the Source of Stress Inventory (Chandler, 1981) and has been demonstrated to predict mood disturbance in several studies (Crossfield et al., 2002; Grandin, Alloy, & Abramson, 2007).

Data Analytic Plan

Prior to conducting mediation analyses, significant relationships were established between the independent variable (IV; single-motherhood status), potential mediators (M; parenting behaviors), and dependent variables (DV; psychopathological diagnoses and symptoms). We used *t*-tests to determine whether previously established differences across family types (e.g., socioeconomic status) were consistent in our study sample. All regression models were prospective and controlled for race, youth gender, socioeconomic status, baseline psychopathology, and childhood stressful life events. To test for indirect effects, we employed the Preacher and Hayes (2008) bootstrapping approach to mediation testing, with a 95% confidence interval for N = 5000 bootstrap resamples. Mediation testing was only used for relationships where single-motherhood status was significantly predictive of youth psychopathology, which reduced the overall number of prospective analyses conducted to three. Only models that had significant indirect effects in the mediation models were further tested to explore whether these relationships were moderated by youth gender. Further, both hypothesized mediators (maternal psychological control and rejection) were entered simultaneously in the mediation models to test the dual effects of both mediators in the hypothesized relationships.

Two follow-up scores were computed for the CDI and MASC. First follow-up was computed as the first prospective completion of the questionnaires, which was a minimum of 6 months after baseline. Last follow-up was computed as the last completion of the questionnaires during the 3 years of follow-ups. Follow-up scores were derived with this distinction to investigate differences in psychopathology as a child progresses through adolescence while maintaining a consistent sample size. All participants included in the sample had at least two follow-up visits, so that the first and last follow-up scores would not be the same time point. For the K-SADS, one follow-up variable accounted for adolescents who met criteria, at any prospective point during the 3-year follow-up period, for each class of diagnoses (i.e., depressive, anxiety, and externalizing).

Results

Preliminary Analyses

Table 1 displays demographic and primary study variable differences by single-motherhood status; Table 2 displays bivariate correlations for all primary study variables. Single mothers were more likely to be African American, χ^2 (1) = 29.27, $p < .001$, $OR = 0.31$, and have children who qualify for subsidized school lunch, χ^2 (1) = 37.75, $p < .001$, $OR = 3.77$, than cohabitating mothers. Racial and socioeconomic status differences between single mothers and cohabitating mothers are well established (Goodrum et al., 2012), and were subsequently controlled for in all analyses. Furthermore, adolescents in single-mother families were more likely to experience significant stressful events during their childhood

relative to adolescents from two-parent families, t (384) = 2.77, p < .01, β = 0.14. Thus, total scores on the CLES were controlled for to ascertain whether childhood stressful events negatively impacted maternal parenting practices. Although adolescent gender was evenly represented across single and cohabitating mothers, χ^2 (1) = 0.44, *ns*, *OR* = 0.89, gender was also included as a covariate (when not included as a moderating variable) because female adolescents were more likely than males to experience anxiety symptoms at first and last follow-ups, and more depressive symptoms at last follow-up (Table 2). There were no gender differences in prospective assessments of adolescent externalizing, depressive, or anxiety disorders.

At baseline, adolescents did not differ on depressive symptoms, depressive disorders, anxiety symptoms, or anxiety disorders by single motherhood status. However, adolescents of single mothers were more likely to meet criteria for an externalizing diagnosis at baseline, χ^2 (1)= 9.30, p < .01, *OR* = 2.50 (Figure 1).

To determine whether demographic variables were significantly associated with attrition rate, we compared mother-youth dyads who completed at least two prospective follow-ups (i.e., the minimum required for inclusion in the study) with dyads who completed one follow-up or only the baseline visit (i.e., non-responders). Out of the 564 participants who completed a baseline assessment, 179 families (31.7%) were considered non-responders for the current study. Although non-responders did not differ from participants included in the study by race, socioeconomic status, or youth gender, non-responders were more likely to be single-mother families than two-parent families, χ^2 (1) = 5.89, p = .02, *OR* = 1.61.

Hypothesis Testing

Table 3 and Table 4 display the results of the Preacher and Hayes (2008) bootstrapping approach to mediation testing. Hypotheses that demonstrated significant relationships between single motherhood and youth psychopathology, single motherhood and parenting, and parenting and youth psychopathology with significant indirect effects via parenting, are presented in the tables by parenting behavior. Figure 2 displays unstandardized effect sizes between primary study variables.

Hypothesis (1): Single Motherhood and Parenting Behaviors—As hypothesized, single mothers were more likely to engage in negatively controlling (i.e., more psychologically controlling) parenting behaviors than cohabitating mothers. Additionally, single motherhood was associated with lower levels of involving (i.e., more rejecting) parenting behaviors. Thus, IV-M relationships for all hypotheses were established as significant. As expected, no between-group difference was found for lax discipline parenting, t (384) = 0.33, *ns*, β = 0.02. Negative control and involvement parenting were significantly correlated and were subsequently tested concurrently in each mediation model to simultaneously evaluate mediation through both hypothesized mediators (when appropriate).

Hypothesis (2): Single Motherhood Predicting to Adolescent Depressive Symptoms / Diagnoses—Adolescents of single mothers exhibited more depressive symptoms at their last follow-up, but not first follow-up, t (384) = 1.41, *ns*, β = .08, relative

to adolescents of cohabitating mothers. Although a significant association was not established between single-motherhood status and prospective adolescent depressive diagnoses, χ^2 (1)= 2.12, p = .15, OR = 1.62, more adolescents from single-mother families met criteria for a depressive disorder (15%) than adolescents from two-parent families (10%).

Subsequently, mediation testing utilized depressive symptoms at last follow-up as the dependent variable. A significant indirect effect via negative control suggested that single mothers were more likely to engage in psychologically controlling parenting, which, in turn, predicted to adolescents experiencing more depressive symptoms at last follow-up (Table 3). Involvement did not mediate the relationship between single-motherhood status and last follow-up depressive symptoms, B = −0.03, SE = 0.09, CI [−.29, .12].

We explored whether gender moderated the indirect effect of negative control on adolescent depressive symptoms for single-mother families. A significant interaction, B = 0.37, SE = 0.13, t (384) = 3.00, p < .01, demonstrated that negative control had a stronger influence on adolescent depressive symptoms for females, B = 0.40, SE = 0.23, CI [.04, .97], relative to males, B = −0.03, SE = 0.11, CI [−.32, .15]. Further, moderated mediation results, B = 0.43, SE = 0.26, CI [.04, 1.07], suggest that the difference between these two conditional indirect effects was significant and that single-mother families contributed to depressive symptoms via negative control only for adolescent girls, but not boys.

Hypothesis (3): Single Motherhood Predicting to Adolescent Anxiety Symptoms / Diagnoses—At first follow-up, adolescents of single mothers experienced less anxiety symptoms than adolescents of cohabitating mothers. We hypothesized that this relationship would be in the opposite direction. Exploratory analyses revealed no group differences on any of the MASC subscales at the first follow-up (p's >.05), suggesting that a particular symptom cluster of anxiety did not primarily account for the difference on total anxiety. Anxious symptoms at last follow-up, t (384)= 1.02, ns, β = 0.01, and anxiety disorders at any follow-up, χ^2 (1)= 0.38, ns, OR = 1.23, did not differ between groups.

Although our hypothesis was unsupported, we explored whether maternal involvement and negative control mediated the relationship between single motherhood and adolescent anxiety symptoms at first follow-up. The indirect effect via involvement was significant, such that single mothers parented with more rejecting behaviors, which subsequently predicted to lower levels of adolescent anxious symptoms. Negative control was not a significant mediator, B = −0.15, SE = 0.23, CI [−.87, .06]. Gender did not moderate this indirect effect.

Hypothesis (4): Single Motherhood Predicting to Adolescent Externalizing Diagnoses—Consistent with our hypothesis, more adolescents prospectively met criteria for an externalizing disorder in single-mother families than cohabitating mother families. Parenting behaviors were entered concurrently to reduce the number of total analyses. Indirect effects for both mediators were significant, which suggested that single mothers were more psychologically controlling, which predicted to more adolescent externalizing disorders (Table 3); further, single mothers were less involved, which also predicted to

adolescent externalizing disorders (Table 4). The total indirect effect, B = 0.16, *SE* = .08, CI [.04, .34], represented the mediating effect of both parenting behaviors concurrently. Gender did not moderate these indirect effects.

Discussion

Despite the consistent association between single motherhood and increased youth psychosocial maladjustment, there remains a dearth of research on the mechanisms that may help account for this relationship. The presented results indicate that single mothers' employment of psychologically controlling and rejecting parenting behaviors are predictive of adolescent psychopathology, beyond the influences of socioeconomic status, race, youth gender, baseline symptoms or diagnoses, and childhood stressful events. More specifically, single mothers were significantly more likely than cohabitating mothers to engage in psychologically controlling parenting behaviors, which predicted increased adolescent depressive symptoms over a three-year interval. Interestingly, girls were more likely than boys to experience depressive symptoms via psychologically controlling behaviors in single-mother families. Additionally, more adolescents experienced prospective externalizing disorders (ADHD, ODD, and CD) in single-mother families than in cohabitating-mother families, mediated by single mothers' tendencies to parent with more rejecting and psychologically controlling behaviors. An alarming 32% of adolescents in single-mother families experienced one or more externalizing disorders, nearly triple the diagnosis rate of adolescents with two parents in our sample. Overall, it appears adolescents are more likely to experience psychopathology (specifically, depressive symptoms and externalizing disorders) in single-mother families due, at least partially, to single mothers' parenting practices.

Further insight can be gleaned by examining how single-motherhood status is associated with differences in adolescent psychopathology over time and development. Children of single and cohabitating mothers exhibited similar rates of psychopathological symptoms and disorders (with the exception of externalizing disorders) at the baseline visit, when they were 12-13 years old. Group differences may have emerged at prospective follow-ups (when youth participants were 14-15 years old) because many forms of psychopathology become more prevalent over the course of adolescence. For example, the elevation in depressive symptoms for adolescents in single-mother families at the last, but not first, follow-up reflects the consistent finding that depression becomes more prevalent over the course of adolescence (Compas, Ey, & Grant, 1993). In contrast, externalizing behaviors and disorders often emerge in early childhood and remain relatively stable over time (Petitclerlc et al., 2009), congruent with our finding that adolescents in single-mother families had elevated rates of externalizing disorders from baseline through follow-up. Thus, although parenting remains relatively consistent over time (Else-Quest, Clark, & Owen, 2011; Moilanen, Rasmussen, & Padilla-Walker, 2014), it's plausible that these parenting behaviors predict the onset of internalizing symptoms particularly during the developmental and social changes that occur during adolescence. .

Given the paucity of research on mechanisms that explain the elevated rates of psychopathology in adolescents of single mothers, we sought to integrate two distinct areas

of research into one model: the association between single motherhood and negative parenting, and between negative parenting practices and youth psychopathology. Single mothers' parenting behaviors are likely compromised by a myriad of demands and stressors (Hilton & Devall, 1998; Kendig & Bianchi, 2008), which is partially supported in our sample given that low socioeconomic status had a significant effect on negative parenting practices in single-mother families. Moreover, single-mother families were significantly more likely to attrit from the study, which may suggest that they experienced more severe stressors (e.g., transportation difficulties, limitations in caregiving for other children, extended work hours) that hindered their ability to complete multiple assessments. This also worked against our study hypotheses in that those single mother families who attrited may have had the most difficulties and the highest levels of adolescent psychopathology. The fact that several of our hypotheses were supported nonetheless suggests that our findings may underestimate the potential magnitude of the association between single motherhood and adolescent psychopathology outcomes.

Although we theorized that stressful events during childhood would predict both negative parenting and youth psychopathology, they were only predictive of youth depressive symptoms and externalizing disorders. It is likely that current maternal stressors, rather than prior childhood stressors, would be a more relevant factor that influences negative parenting practices. Current stressors may be more influential because they more directly impact current mood, availability, and energy, which likely influence parenting behaviors. Unfortunately, this information was unavailable for the current study; however, future research should attempt to integrate current perceived or objective maternal stress (e.g., self-reports, life event interviews, observations of family stressors) to better understand the link between single mother parenting and adolescent psychopathology.

The second line of research that informed our hypotheses is the much larger literature on the influence of parenting behaviors on youth psychopathology. Children of single mothers who frequently parent with psychologically controlling behaviors may be at increased risk for depression because their sense of control over stressors is weakened (Chorpita, Brown, & Barlow, 1998), which can instill feelings of hopelessness and limit the formation of adequate emotion regulation strategies (Barber, 1996). The influence of psychologically controlling behaviors may be exacerbated for adolescent girls because of a greater interpersonal orientation and sensitivity to interpersonal relationships than boys (Rudolph, 2002), as well as a greater susceptibility for emotion dysregulation than adolescent boys (e.g., Broderick & Korteland, 2002). Psychologically controlling behaviors are also predictive of youth externalizing disorders, as mother-child conflicts over autonomy increase the likelihood of a child behaving defiantly (Campbell, Shaw, & Gilliom, 2000). Moreover, maternal rejection can foster a hostile and neglecting environment for the child that inhibits his or her ability to appropriately self-regulate disruptive behaviors (Reitz, Dekovic, & Meijer, 2006).

Our study contributes to a limited area of research in several noteworthy ways. Whereas many single mother studies have focused on child behavioral problems (e.g., Goodrum et al., 2012), we assessed various adolescent psychopathological disorders and symptoms. Further, given that the majority of single mothers in the United States are African-American and poor (Vespa et al., 2013), a substantial portion of single-mother research is conducted with poor

and/or African-American samples. Our study included a more diverse single mother sample that, while predominately African-American and of low socioeconomic status, is generalizable to black and white families of various income levels. Finally, whereas family structure research has typically compared divorced and married mothers (Amato & Keith, 1991), we chose to differentiate single from cohabitating mothers because a fair proportion of single mothers have never been married.

Surprisingly, adolescents in single-mother families experienced less severe anxious symptoms at the first follow-up than adolescents in two-parent families, which was mediated by lower levels of maternal involvement. Not only is this inconsistent with our original hypothesis, it is statistically significant in the opposite direction, rendering future replication critical before more confident interpretations can be posited. One possible explanation, though speculative, is that children of single mothers are externalizing their anxiety as disruptive behaviors. Shared risk factors for externalizing and anxiety disorders, such as poverty and neighborhood danger (Marmorstein, 2007), are commonly associated with single-mother families. Given that single mothers are often unable to spend as much time with their children as cohabitating mothers (Kendig & Bianchi, 2008), externalizing behaviors may be a more effective way for a child to have his or her distress acknowledged.

It's important to note that many adolescents raised by single mothers in our sample did not experience psychopathology. Although they were almost three times as likely to experience an externalizing disorder, adolescents in single-mother families had comparable rates of depressive (16%) and anxiety (18%) diagnoses as those in two-parent families (10% and 16%, respectively) over the course of our study. Thus, growing up in a single-mother family does not greatly increase the likelihood of suffering from an affective disorder during adolescence. Future research should attempt to investigate potential environmental or individual characteristics that help buffer against developing psychopathological disorders. For example, a sizeable number of single-mother families live in multigenerational households (i.e., grandparents live in the house), and adolescents in these families may be less likely to experience psychopathology because of the increased support available to the mother and children (DeLeire & Kalil, 2002). It would also be interesting to investigate whether adolescents in single-mother families who describe a positive relationship with their other parent (biological father or otherwise) are less susceptible to negative outcomes than those who only identify a relationship with their mother.

Although it is likely that contextual factors account for much of the variance in single mothers' negative parenting practices, such factors (e.g., neighborhood stress, income) may be difficult for clinicians to directly address. However, it would be helpful for clinicians to educate families on the detrimental influences of factors such as neighborhood stress on adolescent adjustment, and social workers can help guide families towards appropriate resources. Identifying parenting as a potential point of intervention is promising because it can be addressed directly in therapy. Family therapists working with single-mother families should be mindful of the interdependence of the environment, maternal parenting, and youth psychosocial adjustment. When detrimental parenting is present along with youth maladjustment, clinicians can address parental factors as they function within the family system, with an emphasis on encouraging displays of warmth and allowing children age-

appropriate autonomy. The use of psychologically controlling behaviors may be especially impactful on adolescent girls, and clinicians should facilitate family discussions on appropriate boundaries and autonomy during adolescence. Furthermore, clinicians can explore methods with mothers to cope with parental stress and provide education on developmental changes during adolescence. More broadly, established parenting programs (see Forgatch & DeGarmo, 1999, for effectiveness with single mothers) can help improve the parent-child dynamic and encourage open communication during conflicts. Given the time constraints and economic plight faced by many single mothers, accommodations for services should be explored when feasible, such as providing transportation and utilizing a reduced fee policy.

Our findings should be interpreted considering this study's strengths and limitations. Our study adds to a small body of literature with a multiwave, longitudinal design that encompassed a diverse community sample of adolescents and their mothers. In addition to assessing youth-reported psychopathological symptoms, we ascertained *DSM-IV-TR* internalizing and externalizing diagnoses by conducting independent diagnostic interviews with adolescents and their mothers. Moreover, we employed conservative statistical models that controlled for the influences of variables significantly associated with parenting and/or youth psychopathology (socioeconomic status, race, youth gender, baseline psychopathology, and childhood stressful events). With these strengths considered, it's important to acknowledge limitations in our study.

Although mothers' reports of their parenting were consistent with the literature on single-mother parenting (Hilton & Devall, 1998), a child's interpretation of parental behaviors (i.e., perceived parenting) may be a stronger indicator of adjustment than a mother's report. Additionally, future research should attempt to incorporate additional contextual factors (e.g., role responsibility burden, neighborhood stress, maternal time constraints, limited social support) that may influence the relationship between single-mother parenting and adolescent psychopathology. Further, whereas we utilized childhood stressful events as an indicator of stresses that may negatively influence maternal parenting, a more appropriate measure would be current stressors reported by the mother. This additional investigation would help clarify our postulate that single mothers employ negative parenting behaviors because of detrimental environmental factors. Assessing the length of time that a single mother has been living without a partner may be worthwhile, as it is conceivable that longer absences of a cohabitating partner (or no history of a partner) will render maternal hardships more severe. Future research also should examine these relationships in single-father families to determine whether negative parenting behaviors also mediate the relationship between single-fatherhood status and child psychopathology. Finally, although parenting was used as a predictor of youth psychopathology, research suggests that parent-child relationships often have bidirectional influences of socialization (Kuczynski & Parkin, 2006).

There is nothing inherently detrimental about growing up in a single-mother family; in fact, the majority of children raised by single mothers are well-adjusted (Shook et al., 2010). Such resilience despite frequent adversity in single mothers and their children is noteworthy. However, it is understandable that the demands and stresses of single parenthood can have a

negative influence on parenting, and subsequent youth psychosocial well-being, in some single-mother families. By identifying mechanisms through which single motherhood confers risk for youth psychopathology, clinicians and researchers alike can provide better support for this underserved population.

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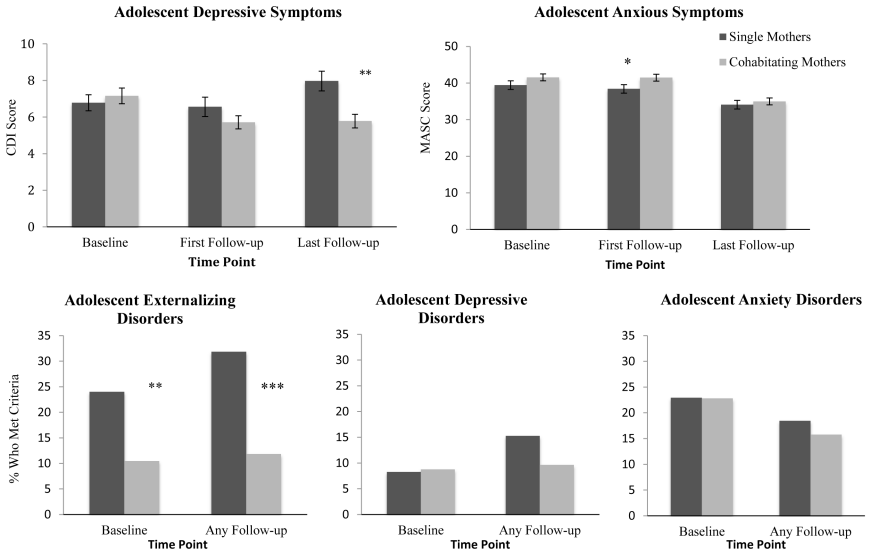

Figure 1. Prospective Adolescent Psychopathological Disorders and Symptoms by Single Motherhood Status

*$p < .05$, **$p < .01$, ***$p < .001$

Note. CDI = Children's Depression Inventory, MASC = Multidimensional Anxiety Scale for Children. Error bars = standard errors.

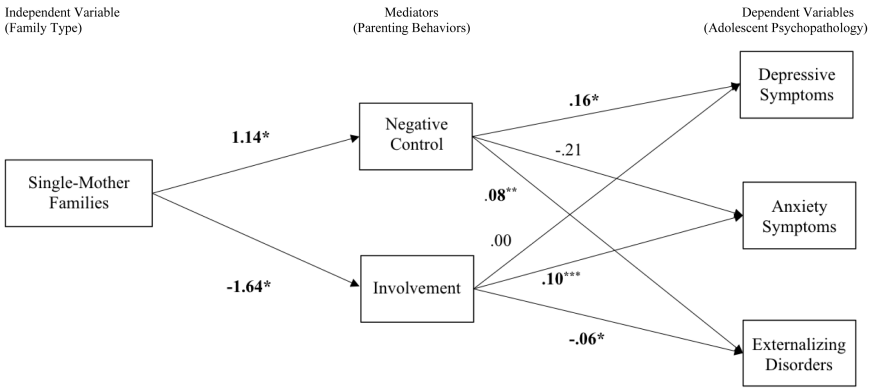

Figure 2. Unstandardized Effects of the Relationship between Single Motherhood, Parenting, and Adolescent Psychopathology

*$p < .05$, **$p < .01$, ***$p < .001$

Note. $N = 385$ for all analyses. Unstandardized effect sizes are presented when controlling for socioeconomic status, youth gender and race, baseline childhood stressors, and baseline psychopathology.

Table 1

Descriptive Statistics and Differences in Study Variables by Single Mother Status

Maternal Characteristics	Single Mothers		Cohabitating Mothers
n	157		228
Age, Baseline	41.36 (7.58)		42.53 (6.75)
Race (Caucasian)	50 (31.85%)	***	136 (59.65%)
Involvement	55.57 (6.71)	**	57.46 (4.90)
Negative Control	27.27 (5.01)	***	25.40 (4.92)
Lax Discipline	27.40 (2.54)		27.44 (2.43)
Youth Characteristics			
Gender (Female)	79 (50.32%)		123 (53.95%)
Subsidized Lunch Eligible	105 (66.88%)	***	80 (35.09%)
Childhood Stressful Events	11.07 (5.66)	**	9.64 (4.42)
Age, Baseline	12.88 (0.59)		12.82 (0.62)
Age, First Follow-up	14.38 (0.45)		14.23 (0.56)
Age, Last Follow-up	15.16 (0.43)		15.05 (0.43)
CDI, Baseline	6.78 (5.51)		7.16 (6.51)
CDI, First Follow-up	6.56 (6.68)		5.71 (5.39)
CDI, Last Follow-up	7.97 (6.73)	**	5.78 (5.52)
MASC, Baseline	39.43 (14.63)		41.55 (14.19)
MASC, First Follow-up	38.41 (14.55)	*	41.47 (14.20)
MASC, Last Follow-up	34.80 (14.83)		34.98 (13.94)
Ext. Dxs, Baseline	37 (24.03%)	**	24 (10.48%)
Ext. Dxs, Any Follow-up	50 (31.85%)	***	27 (11.84%)
Dep. Dxs, Baseline	13 (8.28%)		20 (8.77%)
Dep. Dxs, Any Follow-up	25 (15.92%)		23 (10.09%)
Anx. Dxs, Baseline	36 (22.93%)		52 (22.81%)
Anx. Dxs, Any Follow-up	29 (18.47%)		36 (15.79%)

* $p < .05$

** $p < .01$

*** $p < .001$

Note. CDI = Children's Depression Inventory; MASC = Multidimensional Anxiety Scale for Children, Total Anxiety; Ext. Dxs = Externalizing Diagnoses; Dep. Dxs = Depressive Diagnoses; Anx. Dxs = Anxiety Diagnoses. Means are presented with standard deviations in parentheses, if applicable.

Table 2

Bivariate Correlations Between Primary Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Single Motherhood	-----													
2. Race (Caucasian)	−.28***	-----												
3. Gender (Female)	−.03	−.01	-----											
4. Low SES	.32***	−.40***	−.02	-----										
5. Maternal Involvement	−.16**	.09	.02	−.13*	-----									
6. Maternal Negative Control	.18***	−.23***	.02	.24***	−.15**	-----								
7. MASC 1st Follow-up	−.11*	.11*	.10*	−.07	.15**	−.10*	-----							
8. MASC Last Follow-up	−.01	.09	.20***	−.09	.09	−.09	.51***	-----						
9. CDI 1st Follow-up	.07	−.05	.09	.01	−.06	.08	.21***	.31***	-----					
10. CDI Last Follow-up	.18**	−.08	.12*	.07	−.03	.15**	.17**	.43***	.66***	-----				
11. Ext. Dxs Any Follow-up	.25***	−.04	−.09	.11*	−.19***	.16**	.03	−.10*	.13*	.14*	-----			
12. Dep. Dxs Any Follow-up	.09	−.06	.06	.00	−.07	.05	.09	.14*	.22***	.24***	.05	-----		
13. Anx. Dxs Any Follow-up	.04	−.08	.12*	−.03	−.04	.03	.19***	.20***	.11*	.14*	.02	.49***	-----	
14. Childhood Stressful Events	.14**	.03	.01	.05	−.03	.03	.05	−.05	.18***	.15**	.21***	.07	.09	-----

*$p < .05$

**$p < .01$

***$p < .001$

Note. CDI = Children's Depression Inventory; MASC = Multidimensional Anxiety Scale for Children, Total Anxiety; Ext. Dxs = Externalizing Diagnoses; Dep. Dxs = Depressive Diagnoses; Anx. Dxs = Anxiety Diagnoses.

Table 3

Negative Control as a Mediator of the Relationship Between Single Motherhood and Adolescent Psychopathology

Single Motherhood as a Predictor of Negative Control							
Predictor	B	*SE*	*t*	Predictor	B	*SE*	*t*
Single Motherhood	1.14	0.55	2.05*	Single Motherhood	1.14	0.55	2.05*
Low SES	1.69	0.57	2.99**	Low SES	1.69	0.57	2.99**
Race (Caucasian)	−1.35	0.56	−2.42*	Race (Caucasian)	−1.35	0.56	−2.42*
Model R^2 = .10, F = 7.65, p < .001				Model R^2 = .10, F = 7.65, p < .001			
Negative Control as a Predictor of Depressive Symptoms				**Negative Control as a Predictor of Externalizing Disorders**			
Predictor	B	*SE*	*t*	Predictor	B	*SE*	z
Single Motherhood	1.83	0.70	2.63**	Single Motherhood	0.95	0.31	3.05**
Negative Control	0.17	0.07	2.53**	Negative Control	0.08	0.03	2.61**
CLES (Total)	0.18	.06	2.72**	CLES (Total)	0.10	0.03	3.52***
Gender (Female)	1.48	0.63	2.34*				
Model R^2 = .09, F = 5.65, p < .001				−2 Log Likelihood = 308.92, Model LL = 50.33, $R^2_{\text{Nagelkerke}}$ = .21			
Indirect Effect via Negative Control				**Indirect Effect via Negative Control**			
Effect	*SE*	CI (lower)	CI (upper)	Effect	*SE*	CI (lower)	CI (upper)
0.19	0.13	0.03	0.58	0.09	0.06	0.01	0.26

*p < .05

**p < .01

***p < .001

Note. N = 385 for all analyses. Negative Control and Involvement were entered concurrently when predicting to Externalizing Disorders. CLES = Children's Life Event Scale; SES = socioeconomic status. Dxs = Diagnoses; Sxs = Symptoms. All models control for baseline psychopathology, race, socioeconomic status, youth gender, and childhood stressful life events. Covariates that explain a significant portion of the variance are presented with predictor variables.

Table 4

Involvement as a Mediator of the Relationship Between Single Motherhood and Adolescent Psychopathology

Single Motherhood as a Predictor of Involvement							
Predictor	B	*SE*	*t*	Predictor	B	*SE*	*t*
Single Motherhood	−1.66	0.66	−2.52*	Single Motherhood	−1.66	0.66	−2.52*
Model R^2 = .04, F = 2.61, p = .02				Model R^2 = .04, F = 2.61, p = .02			
Involvement as a Predictor of Anxiety Symptoms				**Involvement as a Predictor of Externalizing Disorders**			
Predictor	B	*SE*	*t*	Predictor	B	*SE*	z
Single Motherhood	−1.28	1.65	−0.77	Single Motherhood	0.95	0.31	3.05**
Involvement	0.28	0.13	2.14*	Involvement	−0.05	0.02	−1.97*
Gender (Female)	3.30	1.49	2.21*	CLES (Total)	0.10	0.03	3.52***
Model R^2 = .04, F = 2.69, p = .01				−2 Log Likelihood = 308.92, Model LL = 50.33, $R^2_{Nagelkerke}$ = .21			
Indirect Effect via Involvement				**Indirect Effect via Involvement**			
Effect	*SE*	CI (lower)	CI (upper)	Effect	*SE*	CI (lower)	CI (upper)
−0.46	0.33	−1.44	−0.03	0.08	0.05	0.01	0.21

*p < .05

**p < .01

***p < .001

Note. N = 385 for all analyses. Negative Control and Involvement were entered concurrently when predicting to Externalizing Disorders. CLES = Children's Life Event Scale; SES = socioeconomic status. Dxs = Diagnoses; Sxs = Symptoms. All models control for baseline psychopathology, race, socioeconomic status, youth gender, and childhood stressful life events. Covariates that explain a significant portion of the variance are presented with predictor variables.