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PARENTING AND YOUTH SEXUAL RISK IN SOUTH AFRICA:
THE ROLE OF CONTEXTUAL FACTORS

by

NADA M. GOODRUM

Under the Direction of Lisa Armistead, Ph.D.

ABSTRACT

Black South African youth are disproportionately affected by the HIV epidemic, and risky sexual behaviors increase youths' vulnerability to HIV infection. U.S.-based research has highlighted several contextual factors that impact sexual risk, but these processes have not been examined in a South African context. In a sample of Black South African parent-youth dyads, this study examined relations among parenting, neighborhood quality, maternal social support, coparenting, and youth sexual risk. Hypotheses were evaluated using structural equation modeling. Results revealed that better neighborhood quality predicted less youth sexual risk via higher levels of positive parenting. Social support was positively related to parenting quality but did not interact with neighborhood quality to impact parenting. Coparenting did not moderate the relation between parenting and sexual risk. Results highlight the importance of family- and community-level processes for youth sexual risk in an understudied and high-risk sample. HIV prevention-interventions should be informed by these contextual factors.

INDEX WORDS: South Africa, HIV, Youth sexual risk, Adolescence, Parenting, Neighborhood

PARENTING AND YOUTH SEXUAL RISK IN SOUTH AFRICA:
THE ROLE OF CONTEXTUAL FACTORS

by

NADA M. GOODRUM

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Master of Arts

in the College of Arts and Sciences

Georgia State University

2014

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2014

PARENTING AND YOUTH SEXUAL RISK IN SOUTH AFRICA:
THE ROLE OF CONTEXTUAL FACTORS

by

NADA M. GOODRUM

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December 2014

DEDICATION

This thesis is dedicated to my unwaveringly loving and supportive husband, Caleb, and to my amazing family, Hani, Heba, Bassam, Shadwa, Richard, Cecilia, Mary-Lisa, Josiah, and Elijah. Thank you for all your love and encouragement over the years.

Soli Deo Gloria.

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INTRODUCTION

An estimated 6.3 million South Africans are living with HIV, making the country the site of the world's largest HIV epidemic (UN AIDS, 2013). HIV affects 8.5% of all South African youth between the ages of 15 and 19 (Statistics South Africa, 2013), and the virus is of particular concern for Black South African youth, who are overrepresented in HIV prevalence statistics (UN AIDS, 2013). Although HIV incidence has been declining, HIV/AIDS still accounted for an estimated 34% of all deaths in South Africa in 2012 (Statistics South Africa, 2013). HIV in South Africa is most commonly transmitted via heterosexual sex, and risky sexual behaviors leave youth more vulnerable to HIV infection compared to youth who do not engage in these risky behaviors (Shisana et al., 2009). Prior to sexual debut, children's sex-related attitudes, intentions, and pre-coital behaviors predict later sexual activity, and, in turn, HIV risk (Atwood et al., 2010; Protopogrou, Flisher, Aarø, & Mathews, 2012). In addition, externalizing behaviors frequently co-occur with risky sexual attitudes, intentions, and behaviors (Costa, Jessor, Donovan, & Fortenberry, 1995), and are related to greater risk of HIV (Bachanas et al., 2002; Doljanac & Zimmerman, 1998; Nyamathi, Stein, & Swanson, 2000). Thus, a thorough examination of the early predictors of sexual risk behaviors and externalizing problems is a vital step to reducing HIV incidence among Black South African youth.

Bronfenbrenner's (1979) ecological systems theory, as well as more recent understandings of this model (see Cummings, Davies, & Campbell, 2000, for a review), assert that child and adolescent development occurs within multiple nested environments. According to this model, development is influenced by contextual factors at various levels, including individual differences, family processes, community characteristics, and sociocultural factors. Researchers have utilized an ecological framework in order to examine youth risk and problem

behaviors both in the US (Small & Luster, 1994) and South Africa (Eaton, Flisher, & Aarø, 2003). Within this framework, important influences on youth adjustment include maternal parenting practices (Rothbaum & Weisz, 1994); mothers' social support (Burchinal, Follmer, & Bryant, 1996; Taylor & Roberts, 1995); mothers' relationships with their coparents (i.e. other adults who are involved in daily childrearing responsibilities; McHale & Lindahl, 2011; Teubert & Pinquart, 2010); neighborhood quality (Armistead, Forehand, Brody, & Maguen, 2002; Leventhal & Brooks-Gunn, 2000); and the wider societal context in which youth develop, including sociodemographic, economic, historical, and cultural factors (Shoveller, Johnson, Langille, & Mitchell, 2004). However, there is a paucity of research examining these processes among South African families. Given the alarmingly high prevalence of HIV among Black South African youth, as well as the relevance of the family and community contexts for child and adolescent development (Bronfenbrenner, 1979; Bronfenbrenner, 1986; Cummings et al., 2000), it is vital to study contextual processes that may affect South African youth. Thus, the current study sought to extend previous research by investigating the relations among parenting, neighborhood context, mothers' social support, and coparenting with youth risk outcomes in a sample of Black South African parent-youth dyads. Specifically, this study included three aims: 1) to examine parenting as a mediator in the relation between neighborhood quality and youth risk outcomes; 2) to examine social support as a direct predictor of parenting and as a moderator in the relation between neighborhood quality and parenting; and 3) to examine the coparenting relationship as a moderator in the relation between parenting and youth risk outcomes. Figure 1 displays the hypothesized study model. This study used archival data from a recent NICHD-funded pilot study investigating the efficacy of a family-based HIV prevention intervention,

known as Imbadu Ekhaya (Armistead et al., 2014), which was implemented in the Langa township outside of Cape Town, South Africa.

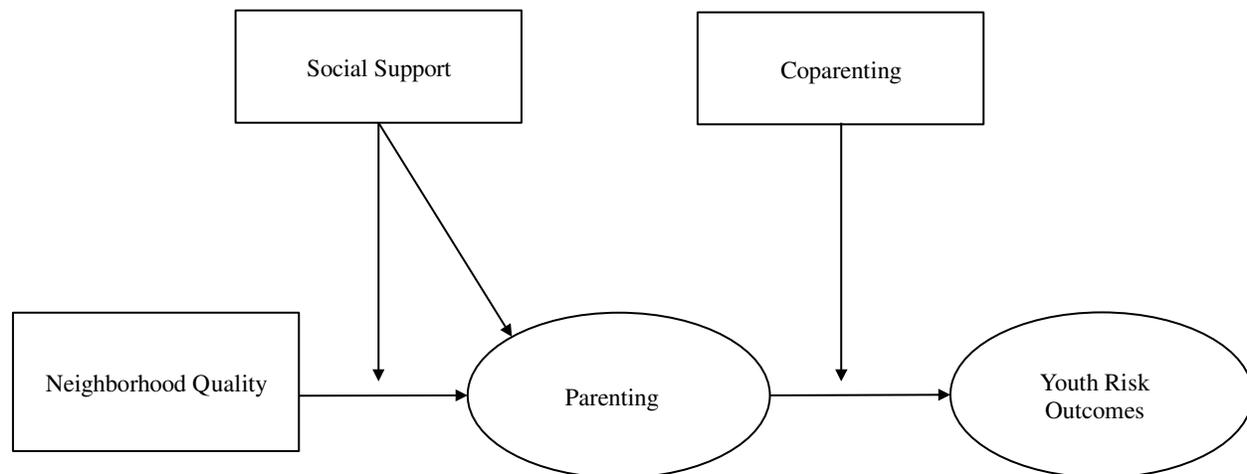


Figure 1 Hypothesized conceptual model predicting youth risk outcomes.

South African Context

The South African context presents a unique set of cultural, economic, historical, and social characteristics which dynamically influence parenting quality, neighborhood characteristics, family functioning, and youth development. Thus, understanding the South African sociocultural context is vital to understanding parenting and other family processes among this population. The HIV epidemic is one contextual factor that has shaped the experience of many South African families both directly and indirectly (Eaton et al., 2003). Black South African youth are particularly affected by the HIV epidemic. At a societal level, HIV-related loss has led to an increase in the number of single-parent homes and reliance on extended family networks in South Africa (Smit, 2007). HIV and interpersonal violence account for the largest proportion of premature deaths in South Africa (Coovadia, Jewkes, Barron, Sanders, & McIntyre, 2009). Other unique contextual challenges facing Black South African

families include high poverty rates, a history of discrimination institutionalized by apartheid, poor access to services, high rates of sexual violence, and a legacy of forced migrant labor (Dunn & Parry-Williams, 2008; Petersen, Bhana, & McKay, 2005). Most Black South Africans experience a combination, if not all, of these contextual challenges, which can compromise family processes and youth outcomes. The unique nature of the South African context highlights the need for empirical research on family functioning and youth HIV risk from an ecologically-driven perspective. Given the dearth of quantitative research conducted in South Africa, much of the literature cited in this review will be U.S.-based, with the acknowledgement that research conducted in the U.S. may have limited generalizability in the South African context. Whenever possible, studies conducted in South Africa will be cited as empirical support for the current study.

Youth Sexual Risk and Problem Behaviors

According to Jessor & Jessor's (1977) Problem Behavior Theory, youth problem behaviors may be conceptualized as a syndrome or constellation of co-occurring behaviors. In accordance with this theory, risky sexual attitudes, intentions, and pre-coital behaviors occur within a pattern of other problem behaviors, including delinquent acts such as getting in trouble at school or home, stealing, or bullying (Costa et al., 1995; Jessor, Donovan, & Costa, 1991). These behaviors are in turn related to increased risk of HIV infection (Doljanac & Zimmerman, 1998; Nyamathi et al., 2000). Guided by Jessor & Jessor's (1977) theory and evidence that youth sexual risk and externalizing behaviors tend to co-occur, the current study examines both sexual risk (i.e. sex-related attitudes, intentions, and pre-coital behaviors), as well as externalizing behaviors, as aspects of an underlying pattern of problem behavior.

Sexual risk has been identified as a major health concern for South African youth (Richter, Norris, Pettifor, Yach, & Cameron, 2007). Youth sexual risk behaviors are an important predictor of HIV infection (Doljanac et al., 1998; Simbayi et al., 2005; Shisana et al., 2009), and South African youth tend to report high levels of risk behaviors (Eaton et al., 2003; Richter et al., 2007). Sexual behaviors that increase HIV risk include early sexual debut, intergenerational sex, exchange of sex for money or gifts, multiple sexual partners, and inconsistent condom use (Shisana et al., 2009; Simbayi et al., 2005; Eaton et al., 2003). Research suggests that at least half of all South African youth engage in sexual intercourse by the age of 16, with Black South Africans and males becoming sexually active earlier than other ethnic groups and females, respectively (Eaton et al., 2003). Moreover, 21% of youth between the ages of 15-24 who are sexually active report not using a condom during their last sexual intercourse (Matseke, Peltzer, Mchunu, & Louw, 2012), further contributing to the risk of HIV infection among this age group. Although condom use has become more consistent in recent years, other risky sexual behaviors, including early sexual debut and having multiple sexual partners, have been increasing in frequency among South African youth (UN AIDS, 2013). Given the importance of identifying sexual risk and preventing HIV before sexual debut (Bell, Bhana, Petersen, & McKay, 2008), it is vital to investigate youths' sex-related attitudes, intentions, and behaviors at an early age. Pre-coital sexual behaviors (e.g. hugging, holding hands, kissing) predict later risky sexual behaviors, which in turn put youth at increased risk of HIV infection (Atwood et al., 2010). According to the Theory of Planned Behavior, attitudes and intentions are important determinants of health-related behavior (Ajzen, 1985; Ajzen & Timko, 1986; Godin & Kok, 1996). Within the field of HIV prevention, researchers have examined children's sex-related attitudes and intentions as proxies for risky sexual behavior in

predicting the risk of infection. According to a recent review, studies using the Theory of Planned Behavior to predict youth sexual risk behaviors in sub-Saharan Africa demonstrated strong predictive ability of the model, with R^2 coefficients ranging from 0.14 to 0.67 (Protogerou et al., 2012). Thus, the Theory of Planned Behavior has been recommended as a model to investigate the sex-related attitudes, intentions, and behaviors of youth in sub-Saharan Africa, including South Africa (Protogerou et al., 2012). In accordance with the Theory of Planned Behavior, the current study will examine early adolescents' attitudes about sex, intentions to engage in sexual activity, and pre-coital behaviors as facets of sexual risk.

In light of evidence that sexual risk and externalizing behaviors co-occur within a constellation of problem behaviors, the current study also includes youth delinquency as an aspect of risk behavior. Research conducted in the U.S. reveals that externalizing behaviors are associated with increased risk of HIV infection (Bachanas et al., 2002; Doljanac & Zimmerman, 1998; Nyamathi et al., 2000). For example, Doljanac and Zimmerman (1998) found that antisocial, but not prosocial, behaviors predicted more high-risk sexual behaviors and less condom use for African American youth. Aggressive behaviors and sexual risk behaviors (e.g. multiple partners, transactional sex, inconsistent condom use) have also been shown to be associated among South African youth (Dunkle et al., 2006; Hoffman, O'Sullivan, Harrison, Dolezal, & Monroe-Wise, 2006). Guided by these findings, the current study will include a latent variable of youth risk to incorporate each of these indicators (i.e., sexual attitudes, sexual intentions, pre-coital behaviors, and externalizing behaviors).

Parenting and Youth Risk Outcomes

Building on Bronfenbrenner's (1979) ecological theory, numerous empirical studies conducted in the U.S. have highlighted the central role of the family in the development of youth

(e.g., see Cummings et al., 2000, and Parke, 2004, for reviews), and researchers have begun to turn their attention to the role of families in the lives of Black South African youth (Amoateng, Barber, & Erickson, 2006; Bojuwoye & Akpan, 2009). Research conducted in the U.S. has examined a number of parenting practices as predictors of youth sexual risk (Deptula, Henry, & Schoeny, 2010; Hipwell, Keenan, Loeb, & Battista, 2010; Kotchick, Shaffer, Forehand, & Miller, 2001; Paikoff, Parfenoff, McCormick, Greenwood, & Holmbeck, 1997; Rodgers, 1999) and externalizing behaviors (Beyers, Bates, Pettit, & Dodge, 2003; Rothbaum & Weisz, 1994). Across studies, parental monitoring and involvement consistently predict youth sexual risk and externalizing behaviors. Monitoring is commonly conceptualized as the active role parents play in supervising the activities of their children or the knowledge parents have regarding these activities (Dishion & McMahon, 1998; Kerr & Stattin, 2000; Stattin & Kerr, 2000), and, relatedly, involvement is defined as parents' active role in various aspects of their children's lives (e.g., academic and social aspects; Pearson, Muller, & Frisco, 2006). Previous research with a broad range of samples provides evidence that parental monitoring may be the most robust parenting predictor of U.S. adolescents' externalizing behaviors (Dishion & McMahon, 1998; Forehand, Miller, Dutra, & Chance, 1997; Griffin, Botvin, Scheier, Diaz, & Miller, 2000; Patterson & Stouthamer-Loeber, 1984; Loeber & Stouthamer-Loeber, 1986). Higher levels of parental monitoring are also associated with lower likelihood to engage in future sexual behavior (intentions), fewer pre-coital behaviors, less sexual activity, more consistent condom use, and fewer sexual partners among U.S. youth (Atwood et al., 2010; Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003; Huebner & Howell, 2003; Miller, Forehand, & Kotchick, 1999; Rodgers, 1999). Similarly, parental involvement is related to lower levels of sexual risk, including delayed sexual debut (Pearson et al., 2006). In a longitudinal study with a

demographically representative sample of youth, Beyers and colleagues (2003) found that parental involvement, monitoring, and supervision predicted fewer adolescent externalizing behaviors over time. An expansive body of literature among a diverse range of U.S. samples has demonstrated the importance of both monitoring and involvement in predicting youth externalizing behaviors and sexual risk.

The quality of the relationship between parents and their children, which includes the support parents provide for their children through affection, compassion, and nurturing (Barber, Stolz, & Olsen, 2005), is another aspect of parenting that predicts U.S. adolescents' sexual risk. For example, more positive parent-child relationship quality is negatively related to adolescents' exposure to sexual possibility situations, inconsistent condom use, and multiple sexual partners (Paikoff et al., 1997; Rodgers, 1999). Parent-child relationship quality is also a consistent predictor of fewer externalizing problems (Amato & Fowler, 2002; Eisenberg, Qing, Spinrad, Valienta, Fabes, & Liew, 2005; Meteyer & Perry-Jenkins, 2009; Zhou et al., 2002).

A few empirical studies provide evidence of the relations between parenting practices and youth HIV risk among South African families. Two studies found that poor parental monitoring was associated with adolescents' risky sexual behaviors, including increased sexual activity and inconsistent condom use (Kelly & Parker, 2000; Eaton et al., 2003). Likewise, Brook and colleagues (2006) found that parent-child relationship quality was negatively associated with South African youths' sexual risk behaviors (i.e. engaging in sexual intercourse, having multiple sexual partners, partners' substance use during sexual activity, and inconsistent condom use). With a sample of mothers living with HIV, Palin and colleagues (2009) demonstrated that more positive parent-child relationship quality was related to fewer externalizing problems among children between the ages of 11 and 16. Within the current study sample, the negative relation

between adaptive parenting practices (i.e. parent-child relationship quality and parental monitoring/involvement) and youth sexual risk and externalizing behaviors has previously been established (Salama, 2011). Specifically, youth who reported better relationship quality with their parents also reported less risky sexual attitudes and fewer externalizing problems. Also, parents' report of their own monitoring and involvement significantly predicted fewer pre-coital behaviors among youth. The current study seeks to build on Salama's (2011) findings by examining parenting within the context of neighborhood quality, parents' social support, and the coparenting relationship. A deeper understanding of these processes will have important clinical implications for South African families in terms of HIV prevention and sexual risk reduction as well as family functioning.

Neighborhood Quality

Consistent with ecological models of development (Bronfenbrenner, 1979), neighborhood quality has been identified as an important environmental factor influencing family functioning, parenting, and youth adjustment. Neighborhood quality is a multi-dimensional construct comprised of various characteristics, including income or socioeconomic status, employment rates, residential stability, crime and violence rates, racial and ethnic diversity, cohesiveness, safety, and other factors (see Leventhal & Brooks-Gunn, 2000, for a review). Research in the U.S. demonstrates that neighborhoods characterized by risk (e.g. low levels of safety and cohesion) are associated with compromised youth adjustment, including lower academic, emotional, and behavioral functioning (Browning, Burrington, Leventhal, & Brooks-Gunn, 2008; Driscoll, Sugland, Manlove, & Papillo, 2005; Forehand & Jones, 2003; Frankel, 2012; McLoyd, 1990; Ramirez-Valles, Zimmerman, & Newcomb, 1998). Perceived neighborhood and community characteristics (e.g., social disintegration, community

socioeconomic status, employment structure) also influence adolescents' sexual risk behaviors, including age of sexual debut and condom use (Brewster, Billy, & Grady, 1993). Although research has highlighted the value of examining youths' perceptions of neighborhood quality (Silk, Sessa, Morris, Steinberg, & Avenevoli, 2004), few studies have included youth reports of their neighborhoods. The current study sought to fill this gap by focusing on youth-reported neighborhood quality.

The impact of neighborhood characteristics on youth outcomes is mediated by family-level processes—specifically parenting practices (Dodge, Petit, & Bates, 1994; Kotchick, Dorsey, & Heller, 2005; McLoyd, 1990; Odgers et al., 2012). Several studies have demonstrated that neighborhood risk may contribute to parental psychological distress (Kotchick et al., 2005; McLoyd, 1990) and compromise parenting practices that are known to influence youth adjustment, including parent-child relationship quality and parental monitoring (Kotchick et al., 2005; Kotchick & Forehand, 2002). In contrast, other studies have observed that poorer neighborhood quality leads to increases in some aspects of protective parenting, including monitoring (Armistead, Forehand, Brody, & Maguen, 2002; Jones, Forehand, Connell, Armistead, & Brody, 2005). Armistead and colleagues (2002) found that mothers living in a high-risk urban environment engaged in monitoring significantly more than mothers living in a low-risk rural environment. Within the urban portion of the same sample, however, Kotchick and colleagues (2005) found that neighborhood risk was related to less engagement in positive parenting behaviors, and this relation was fully mediated by maternal psychological distress. The discrepancy between these findings may be related to the conceptualization and measurement of parenting. Armistead and colleagues (2002) examined individual parenting behaviors (i.e., monitoring and parent-child relationship quality), whereas Kotchick et al.

(2005) examined positive parenting as a latent construct with indicators including monitoring, parent-child relationship quality, and disciplinary consistency. Although mothers in high-risk neighborhoods may increase their engagement in the specific parenting behavior of monitoring by necessity, perhaps neighborhood risk has a compromising effect on positive parenting overall. Additional research is needed to clarify the influence of neighborhood quality on parenting, particularly for families in high-risk settings.

Though less frequently studied, neighborhood quality in South Africa is also an important context in which to understand youth adjustment and family functioning (Shields, Nadasen, & Pierce, 2009). Tomita and Burns (2013) highlight this fact, noting that “the legacy of apartheid’s racially and geographically segregated communities in South Africa provides a unique opportunity to examine the important role of neighborhood in relation to mental health outcomes” (p.101). The high prevalence of interpersonal violence in South African communities also contributes to the urgency of understanding youth and family functioning within the neighborhood context (Shields et al., 2009). Given the country’s unique context and variability in neighborhood conditions, the current study sought to understand the role of perceived neighborhood safety and cohesion in the lives of Black South African youth living in Langa. In many South African cities, including in Cape Town and the surrounding areas, exposure to community violence is a major concern (Dinan, McCall, & Gibson, 2004; Shields et al., 2009). In a study of Black and mixed-race South African adolescents in Cape Town, the majority of youth reported witnessing interpersonal violence in their neighborhoods, ranging from 92% who reported witnessing someone hit to 36% who reported seeing someone killed (Shields et al., 2009). Exposure to each of these types of neighborhood violence was significantly related to lower levels of perceived safety and higher levels of psychological distress (Shields et al., 2009).

Another study with Black South African adolescents found that neighborhood cohesion was associated with fewer risky sexual behaviors, including delayed sexual debut (Burgard & Lee-Rife, 2009). Neighborhood characteristics also predict alcohol use and drunkenness among South African adolescents (Parry, Morojele, Saban, & Flisher, 2004). With the exception of the aforementioned studies, little is known about how perceived neighborhood context influences youth adjustment and family functioning in South Africa. Only one study to date has examined parenting in the context of neighborhood conditions in South Africa (Tarantino et al., in press). This study, conducted with the current sample, demonstrated an interaction between neighborhood quality and maternal social support in predicting parent-child communication about sex. Specifically, in the context of high social support and high neighborhood cohesion, parents discussed fewer sex-related topics and were less responsive to communication about sex. In the context of low social support and high neighborhood cohesion, parents discussed more sex-related topics with their youth. Social support was negatively associated with communication about sex when families perceived their neighborhoods as highly cohesive, and positively associated with communication when families perceived their neighborhoods as unsafe. Though this study constitutes an important first step in understanding parenting in the context of neighborhood quality in South Africa, it is limited by its examination of only one aspect of parenting (i.e., parent-child communication about sex). The current study seeks to extend these findings by examining other parenting practices, including monitoring/involvement and parent-child relationship quality. Specifically, parenting will be examined as a mediator in the relation between neighborhood quality and youth risk outcomes.

Participants of the current study resided in the Langa township near Cape Town, South Africa. Langa has a population of approximately 50,000 and is Cape Town's oldest Black South

African community. The vast majority (97%) of Langa's population identifies Xhosa as their primary language. Langa includes brick-constructed government housing as well as a large informal settlement called "Joe Slovo," which is comprised primarily of shacks. Approximately 47% of the housing in Langa is comprised of informal dwellings or shacks, and 20% of the housing is free-standing brick homes (Affordable Land and Housing Data Centre, 2012).

Traditional dwellings or huts, flats, townhouses (e.g. duplex, triplex), flats in a backyard or on shared property, tents, or non-housing units comprise the remaining 33% of dwellings (Affordable Land and Housing Data Centre, 2012). Given the diversity of living conditions and neighborhood contexts in Langa, we expect that participants residing in different parts of the city will report experiencing varying neighborhood qualities.

Maternal Social Support

In addition to neighborhood variables, U.S.-based research reveals that parents' perceived social support is related to family functioning, parenting, and youth psychosocial adjustment. While it is evident that social support is related to positive outcomes for parents, families, and youth (Andresen & Telleen, 1992; Weinraub & Wolf, 1983), the manner in which this mechanism acts is less clear (Cohen & Wills, 1985). Two primary conceptualizations of social support have emerged in the literature: a main or direct effect model and a buffering model (see Cohen & Wills, 1985, for a review). The main effect model posits that social support is directly related to positive mental and physical health outcomes, regardless of one's level of stress or risk (Cohen & Wills, 1985). The main effect model emphasizes the importance of social embeddedness and integration in facilitating a sense of overall well-being. Alternatively, the buffering model states that social support protects individuals and families against the negative effects of stress (Armstrong, Birnie-Lefcovitch, & Ungar, 2005; Butler, Kowalkowski, Jones, &

Raphael, 2012; Cohen & Wills, 1985; Koeske & Koeske, 1990). The latter model hypothesizes an interaction between stressors and social support, such that in the presence of high levels of stress or risk, social support is more strongly related to positive outcomes. According to this conceptualization, social support “may alleviate the impact of stress appraisal by providing a solution to the problem, by reducing the perceived importance of the problem, by tranquilizing the neuroendocrine system so that people are less reactive to perceived stress, or by facilitating healthful behaviors” (Cohen & Wills, 1985, p. 312). In their review, Cohen and Wills (1985) found evidence supporting both models of social support and specified that differing approaches to its measurement result in different study outcomes.

Social support can be conceptualized in two ways. *Functions* of social support, which tend to result in findings consistent with the buffering hypothesis, include emotional, informational, and tangible support, as well as social companionship. The *structure* of social support refers to the existence of social relationships in one’s life and generally results in findings consistent with a main effect model. Research with U.S. samples has demonstrated that each of the four functions of social support (emotional or esteem support, informational support, social companionship, and instrumental support; Cohen & Wills, 1985; Gottlieb, 1978) may play an important role in the relations between stressors, including neighborhood stress, and parenting behaviors (Armstrong et al., 2005; Ceballo & McLoyd, 2002), yet evidence is mixed regarding the importance of social support for high-risk families versus families with lower levels of risk. In accordance with the buffering hypothesis, Butler and colleagues (2012) found that caregivers’ social support protected youth against the maladaptive effects of neighborhood risk. Others studies have demonstrated that social support is equally beneficial for high-risk families and low-risk families (e.g., Klebanov et al., 1994; Klein et al., 2000), consistent with the main effect

model. For example, in a sample of low-income African American mothers, approximately half of whom were living with HIV, social support was related to less maternal psychological distress, less maternal depression, and fewer child disruptive behavior problems regardless of HIV status, which was conceptualized as the stressor in this study (Klein et al., 2000). Others have found that the relation between social support and positive parenting is weaker among families with high stress (e.g. poor, high-crime neighborhoods, Ceballo & McLoyd, 2002; HIV infection, Dorsey, Klein, Forehand, & the Family Health Project Research Group, 1999). These findings may point to the limitations of the protective role of social support for families facing extremely high levels of stress.

In summary, previous research provides mixed support for the buffering versus main effect models of social support, with inconsistencies often associated with differences in methodology, measurement, and operationalization of stress and support. Although social support has been extensively examined in the U.S., the potential main and buffering effects of social support have yet to be explored with a South African sample. Given the mixed findings in the U.S. regarding social support among families facing elevated stress, as well as the potentially protective role of social support, it is important to investigate its function in family and neighborhood processes among South African families, many of whom face high levels of neighborhood risk. The current study explored the role of social support as a contextual influence on youth sexual risk by comparing two theoretical models of social support. First, consistent with the main effect model, social support was examined as a direct predictor of parenting behaviors. Second, consistent with the buffering model, social support was examined as a moderator in the relation between neighborhood quality and parenting. Given the mixed findings reviewed above as well as the fact that these relations have yet to be examined in the

South African context, hypotheses for this aim are exploratory. It was expected that social support would either directly predict parenting or moderate the relation between neighborhood quality and parenting.

Coparenting Relationship

The HIV epidemic in South Africa has resulted in several shifts in the nation's sociodemographic characteristics, particularly for Black South Africans. One shift includes the growing number of children living in single-parent homes or with extended family members (Dunn & Parry-Williams, 2008; Smit, 2007). South African cultural norms suggest that extended family members and kinship networks play an important role in childrearing, and childrearing is rarely exclusively the biological parents' responsibility (Freeman & Nkomo, 2006; Russell, 2003). However, despite knowledge that many South African youth are being raised by caregivers other than (or in addition to) their biological mothers, the role of coparents in the lives of these children has not been adequately examined. Broadly, coparenting may be understood as "an enterprise undertaken by two or more adults who together take on the care and upbringing of children for whom they share responsibility" (McHale & Lindahl, 2011, p.3). Researchers have conceptualized coparenting either as the presence vs. absence of a coparent or, when a coparent is present, the quality of the relationship between the primary caregiver and coparent. Research in the U.S. with two-parent families has demonstrated the importance of the coparenting relationship as a predictor of child adjustment and family functioning (see Feinberg, 2003, and Teubert & Pinquart, 2010, for a review). To a lesser extent, coparenting has been examined among single-mother families in the U.S. (see Jones, Zalot, Foster, Sterrett, & Chester, 2007, for a review). The majority of African American single mothers report receiving assistance from another adult or family member (i.e. a coparent) in coordinating child-rearing

responsibilities (Jones, Forehand, Brody, & Armistead, 2003; McHale & Lindahl, 2011).

Children whose single mothers report the presence of a coparent display higher intellectual and academic achievement, evidence fewer internalizing and externalizing problems, and are less likely to live in poverty, compared to those whose mothers do not report the presence of a coparent (see Johnson, 1996, for a review). The impact of the presence of a coparent has not been investigated among South African families.

Beyond the presence of a coparent, research with U.S. samples, including both two-parent families and single-parent families, has demonstrated that the quality of the coparenting relationship is an important moderator of the relation between parenting and youth outcomes (Cook, Schoppe-Sullivan, Buckley, & Davis, 2009; Forehand & Jones, 2003). Better coparenting relationships promote the positive effects of parenting practices and protect children against the negative effects of maladaptive parenting. However, only two studies to date (Bradford, Barber, Olsen, Ward, & Stolz, 2003; Palin et al., 2009) have examined coparenting relationship quality with South African samples. One study (Palin et al., 2009) found that conflict between South African mothers and their coparents was related to increased child internalizing symptoms, but not externalizing problems. In a cross-national comparison study that included three South African ethnic groups, Bradford and colleagues (2003) found that overt coparenting conflict significantly predicted antisocial behaviors among Black South African youth. Coparenting conflict was also related to compromises in parental warmth (Bradford et al., 2003). While these two studies provide an important initial glimpse into the role of the coparenting relationship for Black South African youth, neither study examined the moderating effects of coparenting in the relation between maternal parenting and youth outcomes. Additionally, both studies focused on coparenting conflict to the exclusion of positive

dimensions of relationship quality, such as communication and support. The current study would be only the third study to examine the role of coparents among South African families and the first to include multiple indicators of coparenting from presence versus absence of a coparent to relationship quality between primary and secondary caregiver, inclusive of conflict, support, and communication. Coparenting is hypothesized to moderate the relation between parenting and youth sexual risk and externalizing behaviors in the current sample. In light of the kinship traditions in South Africa and the expected high rates of coparenting among South African families, a careful examination of the role of other important adults in youth functioning is warranted. Results of these findings will have important clinical implications for youth and families. For example, if the study hypotheses are supported and coparenting relationship quality is found to moderate the relation between parenting and youth risk, coparents may be included in clinical treatment and HIV prevention efforts.

The current study provides a culturally sensitive approach to understanding co-caregiving in South Africa by allowing mothers to define their own coparents. Although some domestic researchers have taken this approach (e.g., Jones et al., 2007), the vast majority of coparenting research in the U.S. takes a more limited, structured approach to coparenting, such as defining coparents as fathers or grandmothers. Rather than imposing a specific definition on coparent identity, the current study gives mothers the flexibility to identify the adults they perceive as being the second most important caretakers for their children. As a result of HIV-related loss, increasing numbers of South African children are being raised by extended family members and other caretakers (Freeman & Nkomo, 2006). Adopting a participant-driven and flexible definition of coparenting is particularly relevant given this phenomenon.

Summary of Research Questions and Hypotheses

Guided by several conceptual models (Ajzen, 1985; Bronfenbrenner, 1979; Jessor & Jessor, 1977) and the extant literature regarding youth sexual risk and externalizing behaviors in the U.S. and South Africa, the current study sought to extend previous research by examining the relations among neighborhood quality, parenting, social support, the coparenting relationship, and youth risk outcomes among a sample of South African mother-adolescent dyads. This study has three aims. The first aim was to examine parenting as a mediator in the relation between neighborhood quality and youth risk outcomes. I hypothesized that low levels of neighborhood quality would be related to more youth risk outcomes via compromises in parenting. Secondly, this study examined social support as a direct predictor of parenting and as a moderator in the relation between neighborhood quality and parenting. Hypotheses for this aim were exploratory. I anticipated that social support would either directly predict more positive parenting or would buffer caregivers against the negative effects of poor neighborhood quality, such that at high levels of social support, the positive relation between neighborhood quality and parenting would be weaker. Finally, the current study sought to examine the coparenting relationship as a moderator in the relation between parenting and youth risk outcomes. I hypothesized that in the presence of a positive coparenting relationship, the negative relation between adaptive parenting practices and youth risk outcomes would be stronger. Aims were accomplished using structural equation modeling in Mplus 7.0 (Muthén, & Muthén, 2011). The full conceptual model with two latent constructs and 11 observed indicators is presented in Figure 2.

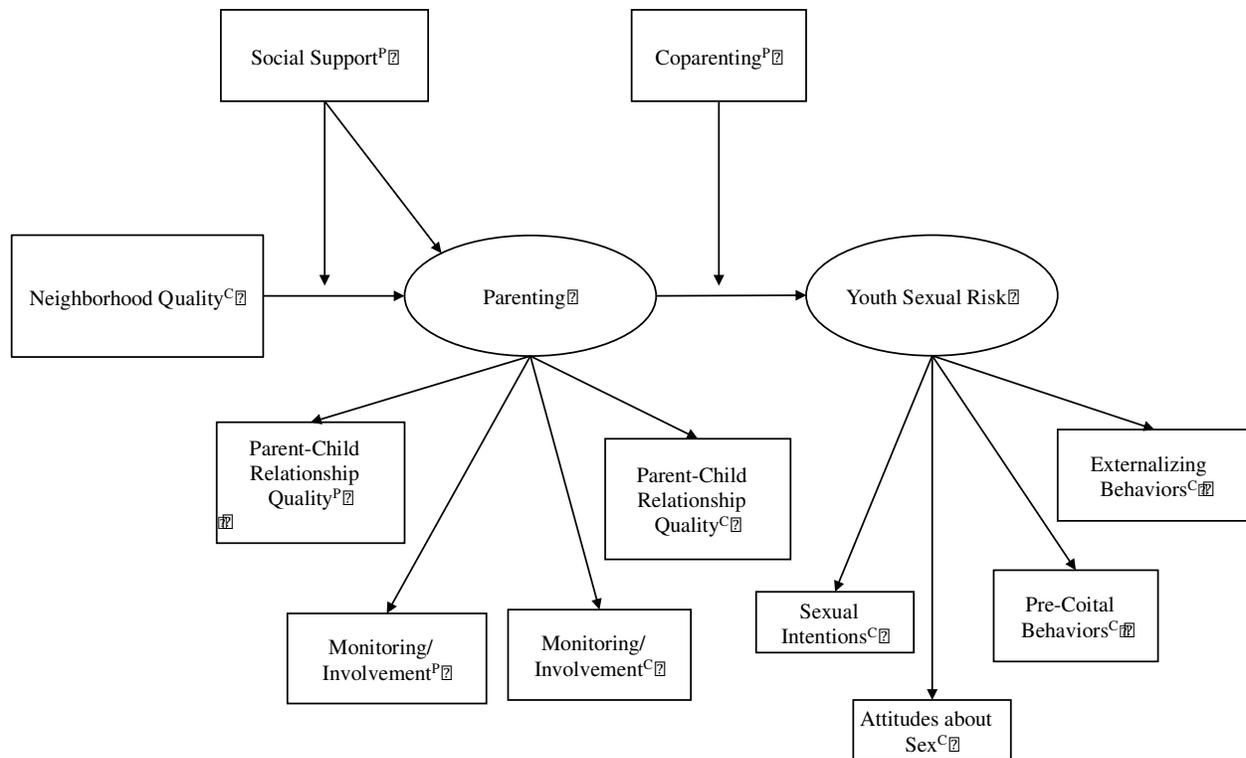


Figure 2. Hypothesized conceptual model including latent constructs and observed indicators, predicting youth risk outcomes.

The current study provides a culturally-informed model of contextual and familial factors related to youth sexual risk and externalizing behaviors among South African families. Results will inform research, prevention and intervention efforts, and policy. Specifically, this study allows for a more comprehensive exploration of the contextual factors influencing South African youth development and sets the stage for more inclusive and comprehensive prevention and intervention programs targeting mothers' parenting, social support, and coparenting relationships.

METHOD

The current study used archival data to explore predictors and processes involved in youth sexual risk and externalizing behaviors in a sample of Black South African parent-youth dyads. The data for the current study were drawn from a recent NICHD-funded pilot study testing a family-based HIV prevention intervention known as Imbadu Ekhaya (Armistead et al., 2014).

Participants and Recruitment

Recruitment. Participant recruitment for Imbadu Ekhaya occurred over the course of six months. Participants were recruited from the Langa township near Cape Town, South Africa, by project staff at the Cape Town Child Welfare Society (CTCWS). CTCWS was the primary community-based partner in the development and implementation of the parent study. CTCWS staff went door-to-door in Langa to find eligible dyads. Biological mothers were most often the primary caregiver of the eligible child, but one need not be the biological mother to be enrolled in the study. Caregivers were included if they were the primary caregiver for a child between the ages of 10 and 14 and were able to participate in the interviews and intervention in either English or Xhosa. The primary caregiver was defined as the adult who assumed most of the parenting responsibilities for the target child. Based on the formative work of the study and sociocultural considerations within the South African context, only female caregivers were included in the sample. Preliminary work with focus groups revealed that fathers' involvement in childrearing in this community is minimal (Zimmerman, Tarantino, Armistead, Cook, Skinner, & Toefy, under review). Also, epidemiological data suggest that women in South Africa are more likely to be primary caregivers for children than are men, and children are more likely to live with their mothers or other female caregivers than their fathers (Barbarin & Richter, 2001). Caregivers and

children also must have lived together for at least the previous year and lived in Langa for at least one year. When a household included more than one child in the age range, the child with the most recent birthday was selected as the target child. Dyads who were eligible and interested received a flyer inviting them to one of three informational sessions. The three informational sessions resulted in a total of 106 potential participating dyads. During the informational meetings, research staff explained the details of the study and scheduled baseline assessments. Seven dyads attended an informational meeting but did not participate in the study; 4 were ineligible and 3 withdrew after consent due to the length of the assessment.

Sample characteristics. Ninety-nine caregiver-youth dyads enrolled in the parent study. The mean age for parents in the sample was 42.6, $SD = 11.4$, and the mean age for children was 11.7, $SD = 1.4$ years. Fifty-three percent of youth in the sample were female. The majority (84%) of the sample ethnically identified as Xhosa, and other ethnic identifications included Zulu (11%), Sotho (3%), and other (2%). Approximately 70% of caregivers in the sample were the child's biological mother. The sample also included grandmothers (16%), aunts (6%) and great-grandmothers (2%). Approximately 42% of caregivers in the sample had never married. Seventy percent of caregivers identified a coparent, or another adult involved in daily childrearing activities.

Procedures

All procedures for the parent study were approved by the Georgia State University Institutional Review Board and the Stellenbosch University Ethics Committee. Data for the parent study were collected at three time points: baseline, post-intervention follow-up, and six-month follow-up. However, this study only utilized baseline data. Assessments were conducted at community sites. Caregivers and youth were interviewed separately to ensure privacy of

responses. Baseline data were gathered using Audio Computer-Assisted Self-Interview software (ACASI). Interviewers were trained on a range of topics including general rapport-building strategies, study procedures, mandatory reporting guidelines, confidentiality and ethics issues, and familiarity with the assessment tools. Interviewer skills were maintained through weekly staff meetings. Before each assessment, interviewers explained the study and obtained informed consent from caregivers in the caregiver's language of choice. Assent was also obtained from the child in his or her preferred language. During the consenting process, families were told that their participation in the study was voluntary. They were informed that if they chose to participate, they would be completing several measures, and their responses to questions would remain confidential except in the case of certain legal circumstances (i.e., child neglect or abuse, or suicidal or homicidal behavior). Participants were given the opportunity to ask questions or raise concerns. Participants completed assessments after the consenting process. Parents were compensated with 70 Rand (approximately 10 USD) in grocery vouchers, and children received a small toy or other gift valued at approximately 20 Rand (3 USD). These forms of compensation were selected because they provided sufficient reimbursement for participants' time and effort, but were unlikely to be valuable enough to coerce participation. Interviews lasted approximately one hour for caregivers and 30 minutes for children. At the end of each assessment, participants were debriefed and given the chance to ask questions.

Measures

Piloting and translation. Whenever possible, assessment instruments that had previously been used with South African samples were selected to increase cultural sensitivity of the assessment. When South African measures were not available, measures developed in the U.S. were piloted and modified based on formative work, taking into account the sample's cultural

and ethnic context. Instruments were modified based on input from South African researchers, family service providers, and families living in the target community. Following these modifications, measures were translated from English to Xhosa and back in accordance with the back-translation technique by Brislin (1970). All measures are included in the appendices.

Demographic information. Caregivers completed the Household Economic and Social Status Index (HESSI; Barbarin & Khomo, 1997), a self-report measure developed for use with South African families. This measure has been utilized in South Africa as a proxy for socioeconomic status (Barbarin & Khomo, 1997) and includes information regarding caregiver age, marital status, education level, and household membership, as well as the target child's age and gender. The HESSI assesses level of economic stability by combining several indicators of household resources and consumption (Barbarin & Khomo, 1997). Thirteen of the 17 items assessing socioeconomic status included dichotomous response options (yes/no). The remaining four items were "In what type of house do you and your child live? (scored 0 to 5); "What type of toilet facilities does your home have?" (scored 0 to 3); "Do you own or rent a home? (scored 0 to 3); and "In the last six months, how often has your child gone hungry because you have not had food? (scored 0 to 5). Certain items were reversed scored such that for all items, higher scores indicated the presence of more material resources. Scale scores were computed as the sum of all 17 items. The scale was dichotomized at the median level, creating a low resources group (0) and high resources group (1). Higher scores indicate the presence of more material resources.

Youth sexual risk outcomes. In accordance with Jessor & Jessor's (1977) Problem Behavior Theory, several outcomes will serve as indicators in a latent variable of youth sexual

risk: attitudes about sex, sex-related intentions, pre-coital behaviors, and externalizing behaviors. Youth participants completed these measures and details of each are provided below.

Youth sexual attitudes. A modified version of the Child Sexual Attitudes measure (Ball, Pelton, Forehand, Long, & Wallace, 2004) was utilized to assess youths' attitudes about people having sex (both in general and personally), birth control and condom use, and responsibility for safe sex practices. Due to the low base rate of risky sexual behaviors in the study sample, this instrument was selected to assess youths' attitudes, which may be related to later risky sexual behavior (Treboux & Busch-Rossnagel, 1990). The measure includes 16 items, which used a 3-point Likert scale ranging from 0 = *Not at all true* to 2 = *Very true*. Though developed and utilized only on U.S. samples, the measure was modified based on feedback from South African collaborators during the formative work. Scores were averaged with a possible range of 0 to 2, and higher scores indicated more protective attitudes about sex. Cronbach's alpha for this sample was 0.88.

Youth sexual intentions. Youth's sex-related intentions were assessed using a 7-item scale adapted from the Parents Matter! Program (Ball et al., 2004), from which Imbadu Ekhaya was adapted. This measure assesses children's self-report of their readiness and intentions to engage in sexual behaviors with members of the opposite sex in the near future. Within the questionnaire, children were asked how often they thought about touching a boy or girl's private parts or having a boy or girl touch their private parts, as well as how often they thought about having sex with a boy or girl. Items were rated on a 4-point Likert scale and summed, with higher scores indicating higher levels of sexual intentions. A fifth option was also provided, which was, "I'm not sure or I don't know (what sex is)." Youth who responded that they never thought about having sex were not asked any further questions regarding their intentions. This

measure has demonstrated adequate validity and reliability among U.S. samples (e.g., Ball et al., 2004) but has not previously been used in South Africa.

Youth pre-coital behaviors. In order to assess risk factors for sexual behavior, youth pre-coital behaviors were measured using eleven items from an instrument developed for the Parents Matter! Program (Ball et al., 2004). Some items were drawn from a measure by Hansen, Paskett, and Carter (1999). The instrument assesses adolescents' sexual interests and activities with members of the opposite sex. Youth responded to questions about dating, consensual touching under clothing, consensual exposure of private parts, and consensual touching of private parts. Questions were gated, such that youth were asked about advanced sexual activity only if they responded affirmatively to earlier questions. Item response options were dichotomous (yes/no). Items were summed to provide a total score, with higher scores indicating more pre-coital behaviors. Scores on the measure could range from 0 to 11. Cronbach's alpha for this sample was 0.79.

Youth externalizing behaviors. Youth externalizing behaviors were assessed using youth report of the delinquency subscale of the Child Behavior Checklist (CBCL; Achenbach, 1991). This scale consists of 13 items measuring youths' engagement in problem behaviors such as truancy, stealing, bullying, and other behaviors. Items were rated on a 3-point scale, including 0 = *Not at all true*, 1 = *A little true*, and 2 = *Very true*. Scale scores were computed by averaging responses across all items, yielding a possible range of 0 to 2. The CBCL demonstrates good reliability and validity (Achenbach, 1991) and has been extensively utilized among diverse samples (Jones, Forehand, Brody, & Armistead, 2002; Tomkins & Wyatt, 2008), including with South African samples (Barbarin & Richter, 2001; Palin et al., 2009). Cronbach's alpha for the current sample was 0.75.

Parenting quality. The current study utilized a latent parenting quality variable comprised of parental monitoring/involvement and parent-child relationship quality. Reports from both the parent and the child were utilized in this study.

Parental monitoring/involvement. The Inventory of Parental Involvement (IPI), a 23-item inventory assessing parental monitoring and involvement, was adapted from the Inventory of Father Involvement (IFI; Hawkins et al., 2002). Following the formative work, 12 of the original 35 items were retained and 11 new items were created. All modifications were informed by feedback regarding cultural and ethnic factors relevant to the sample. This study was the first known use of the IPI with a South African sample. Items assessed parents' level of involvement in schoolwork, the amount of time parents spend with their children, parents' knowledge of their children's whereabouts and activities, and other related topics. Participants responded to the items using a 3-point Likert scale: *1 = Never; 2 = Sometimes; 3 = Often*. These response options were modified from the original scale, which used a 6-point Likert scale ranging from *0 = Very Good* to *6 = Excellent*. Three items, which asked about frequency of involvement, used a 4-point Likert scale: *1 = Never; 2 = Once or twice a week; 3 = About three times a week; 4 = Every day or almost every day*. Total scores on the IPI were calculated by averaging the items, with higher scores indicating more parental involvement. Cronbach's alpha for this sample was 0.83 for caregivers and 0.88 for youth.

Parent-child relationship quality. The Interaction Behavior Questionnaire (IBQ; Prinz, Foster, Kent, & O'Leary, 1979) assesses the quality of the relationship between caregivers and children. Youth and caregivers completed the short form of the IBQ, which is comprised of the 19 items with the highest phi coefficients and the highest item-to-total correlations with the original 75 items of the IBQ. The correlation between the short form and the long form is .96.

Responses were dichotomous (yes/no) and scores were summed. Total scores ranged from 0 to 19, with higher scores indicating more positive relationship quality. The IBQ has been found to have adequate internal consistency and discriminant validity in U.S. samples (Prinz et al., 1979; Robin & Weiss, 1980). Previous research with a sample of Black South African mothers living with HIV has also utilized this instrument (Palin et al., 2009), and based on the feedback of South African collaborators, the measure was not modified. This measure demonstrated adequate internal consistency in this sample, with a Kuder-Richardson statistic of 0.78 for caregivers and 0.78 for youth.

Perceived neighborhood quality. Youth perceptions of neighborhood quality were assessed on two dimensions: safety and cohesion. A description of each neighborhood subscale is included below. In order to weight the two subscales equally, z-scores were computed and summed to create a total score for each participant. For the descriptive and preliminary analyses, results are presented for the safety and cohesion subscales separately. In the primary structural regression model analyses, results are presented for the z-scored and combined index score for neighborhood quality.

Neighborhood safety. Youth completed a 6-item scale assessing perceptions of neighborhood safety. Items were measured on a true/false scale, with the exception of one item (“How safe do you feel your neighborhood is?”), which was measured using a 3-point Likert scale ranging from 1 = *Not safe* to 3 = *Very safe*. This item was dichotomized by combining response options 2 and 3 (*Safe* and *Very safe*). Three of the six items were based on a community disorder index (Cutrona, Russell, Hessling, Brown, & Murry, 2000). These items included, “Children in your neighborhood have nowhere to play but the street;” “The equipment and buildings in the park or open area that is closest to where you live are well kept;” and “There

are gangs in my neighborhood.” The remaining three items, which related to the community’s street committee and neighborhood watch organizations as well as general perceptions of the safety of open areas, were created for the parent study based on the formative work in Langa. Item responses were summed to create a total subscale score, and scores could range from 0 to 6. Higher scores indicated safer perceptions of neighborhoods. Cronbach’s alpha for this sample was .71.

Neighborhood cohesion. Neighborhood cohesion was measured using a 15-item scale completed by youth (Cutrona, Russell, Hessling, Brown, & Murry, 2000). Two additional items were created for this study based on the formative work, yielding 17 total items. This measure assessed youth perceptions of social ties, trust, and a general sense of community among neighbors. Response options were dichotomous (true/false) for 16 items, and one item (“How easy is it for you to pick out people who are outsiders or who obviously don’t live in your neighborhood?”) was measured on a 3-point Likert-type scale ranging from 1 = *Very Easy* to 3 = *Not Easy*. This item was dichotomized by combining “very easy” and “sort of easy” in order to include the item with the larger scale. Responses across all 17 items were summed, resulting in a possible range of 0 to 17. Higher scores indicated greater perceived neighborhood cohesion. Cronbach’s alpha for this sample was 0.76.

Social support. The Medical Outcomes Study Social Support Survey (MOS-SSS; Sherbourne & Stewart, 1991) was used to assess parents’ perceived current availability of social support. This scale consists of two subscales: parents’ perception of the support available from friends and from family. Each of the two subscales contains 14 items. This measure was developed with samples of individuals living with chronic health conditions. Participants provided information regarding their perceived availability of tangible support,

emotional/informational support, affectionate support, and positive social interaction.

Participants responded to the items using a 5-point Likert scale: 1 = *No one would do this*; 2 = *Someone might do this*; 3 = *Someone would probably do this*; 4 = *Someone would certainly do this*; 5 = *Most of them would certainly do this*. A scale score created from the summed score across all items was included as an observed indicator in the current study. The instrument has demonstrated good validity and reliability among U.S. samples (Sherbourne & Stewart, 1991). It has been used previously with a South African sample (Swartz, 2005). Cronbach's alpha for this sample was 0.97.

Coparenting relationship. The current study examined coparenting using two observed indicators: presence of a coparent and coparenting relationship quality.

Presence of a coparent. Parents were asked to identify the second most important caregiver in the child's life (i.e., the caregiver's coparent), such as the child's father, grandmother, or family friend. The presence or absence of a coparent was assessed using one item: "You are the main caregiver for your child. Is there someone who helps you raise your child and take care of them?" Parents responded yes or no to this item, and participants who responded "yes" were prompted to provide the coparent's relationship to the child. Of the 99 parents, 69 identified a coparent.

Coparenting relationship quality. The Parenting Convergence Scale (PCS; Ahrons, 1981) is a 12-item questionnaire developed in the U.S. as an assessment of the quality of co-caregiver relationships. The measure covers three domains related to co-caregiving: communication, support, and conflict. Caregivers completed the questionnaire based on their relationship with the coparent they identified. Following the precedent of previous research (Klein et al., 2000), the 30 caregivers who did not identify a coparent were assigned the lowest

possible scale score (i.e., a total score of 5), in order to retain the full sample for the analyses. A few modifications were made to this instrument based on feedback from South African collaborators as well as previous research with African American mothers living with HIV (Klein et al., 2000, Jones, Shaffer, Forehand, Brody, & Armistead, 2003). Eleven of the original twelve items were retained, and one item was reworded for clarity. Also, consistent with previous research (Klein et al., 2000; Jones et al., 2003), response options were changed from a 5-point Likert scale to a 4-point Likert scale ranging from *1 = Never* to *4 = Always*. To create a total score, the communication and support subscales were summed and the conflict subscale score was subtracted from this sum. The total relationship quality score for each participant served as an observed indicator in the structural regression model. Adequate reliability and validity has been demonstrated in prior research (Ahrons, 1981), including research with mothers living with HIV in the U.S. (Jones et al., 2003) and South Africa (Palin & Armistead, 2006). Cronbach's alpha for this sample was 0.82 for the total scale.

Data Analytic Plan

The purpose of the current study was to examine pathways among neighborhood quality, parenting practices, social support, coparenting relationship quality, and youth sexual risk. The first aim of the current study was to investigate the mediating role of parenting in the relation between neighborhood quality and youth outcomes. The second aim was to examine the role of social support in the relation between neighborhood quality and parenting behaviors. Finally, the third aim was to examine coparenting relationship quality as a moderator in the relation between parenting and youth sexual risk and externalizing outcomes.

First, assumptions of the study model were confirmed. In addition, demographic variables with a significant correlation to the outcome variable, youth risk, were included as

covariates in the overall model. Figure 2 displays the conceptual model, which includes first- and second-stage moderation. Given that the proposed analyses were expected to be underpowered, each aim was examined separately. Specifically, the first set of analyses examined parenting as a mediator between neighborhood quality and youth risk outcomes. Next, the main effects of social support on parenting were examined, followed by the moderating role of social support in the relation between neighborhood quality and parenting. Finally, the moderating role of coparenting (presence and relationship quality) in the relation between parenting and youth risk outcomes was tested. The proposed models were analyzed using structural regression modeling. Each model was estimated using two-step modeling (Anderson & Gerbing, 1988; Kline, 2011). Structural regression modeling affords the opportunity to estimate both the measurement and structural model in order to examine the relations among latent variables while reducing measurement error.

The first step of two-step modeling included a confirmatory factor analysis used to estimate a measurement model including two latent variables with their respective observed indicators: maternal parenting (maternal report of monitoring/involvement, maternal report of mother-child relationship quality, child report of monitoring/involvement, child report of mother-child relationships quality); and youth sexual risk outcomes (youth attitudes about sex; sex-related intentions; pre-coital behaviors; externalizing behaviors). Maternal social support, neighborhood quality, presence of a coparent, and coparenting relationship quality were included in the models as observed indicators. This step provides an evaluation of the measurement model and examines whether the latent variables are accurately measured by the observed indicators.

The second step of two-step modeling involved testing a structural regression model to examine the hypothesized relations among the variables. Structural models were examined for comparable fit against the corresponding measurement model. Models in this study included first- and second-stage moderation, with social support hypothesized to moderate the relation between neighborhood quality and parenting and the coparenting relationship hypothesized to moderate the relation between parenting and youth risk outcomes. In the case of significant interaction effects, simple slopes were probed in order to explicate the interaction effects. All analyses were conducted using Mplus 7.0 (Muthén, & Muthén, 2011).

RESULTS

Preliminary Analyses

Table 1 presents descriptive statistics for all study variables, and Table 2 displays bivariate correlations among all variables. Youth age and gender were each significantly positively correlated with three of four outcome indicators: youth attitudes about sex, sex-related intentions, and pre-coital behaviors, such that older youth and males reported higher levels of each variable. Age and gender were not correlated with any other study variables. Socioeconomic status (material resources) was not correlated with any variable, and thus was not included as a covariate in the primary analyses. Youths' perceived neighborhood quality was significantly positively correlated with youth-reported parental monitoring and involvement and marginally positively correlated with youth-reported parent-child relationship quality, such that more positive perceptions of neighborhood quality were associated with higher levels of positive parenting practices. Neighborhood quality was also significantly negatively correlated with externalizing behaviors, such that youth who reported more favorable perceptions of neighborhood quality also reported engaging in fewer externalizing behaviors.

With the exception of parent-reported relationship quality and youth-reported monitoring/involvement, all parent- and youth-reported parenting variables were positively correlated with one another. Parent-reported monitoring/involvement was also positively correlated with parental social support and negatively correlated with youth externalizing behaviors (marginally) and pre-coital sexual behaviors. Youth-reported parent-child relationship quality was significantly negatively correlated with sexual intentions and externalizing behaviors, and marginally negatively correlated with pre-coital behaviors. Youth-reported parental monitoring/involvement was significantly negatively correlated with sexual intentions

and externalizing behaviors, and positively correlated with parental social support. Among the outcome variables, there were significant positive correlations between sexual intentions and externalizing behaviors and between sexual intentions and pre-coital behaviors. There was a marginally significant positive correlation between pre-coital behaviors and externalizing behaviors.

Table 3.1.1 *Descriptive Statistics for All Study Variables*

	Percentage	Mean	Standard Deviation	Range	
				Min	Max
Child Age		11.71	1.39	10	14
Child Gender					
	Male	47.5%			
	Female	52.5%			
Parent Ethnicity					
	Xhosa	83.8%			
	Zulu	11.1%			
	Sotho	3.0%			
	Other	2.0%			
Parent Age		42.55	11.43	22	74
Material Resources		0.46	0.50	0	1
Neighborhood Safety ^C		3.72	1.70	0	6
Neighborhood Cohesion ^C		11.57	3.10	3	16
Parent-Child Relationship Quality ^P		13.02	3.94	2	19
Monitoring/ Involvement ^P		2.48	0.25	1.83	3
Parent-Child Relationship Quality ^C		12.90	2.97	2	18
Monitoring/ Involvement ^C		2.36	0.35	1.18	3
Attitudes about Sex ^C		0.77	0.27	0.19	1.13
Sexual Intentions ^C		2.49	3.56	1	18
Sexual Behaviors ^C		3.58	2.60	0	11
Externalizing Behaviors ^C		0.37	0.30	0	1.15
Coparent Presence ^P					
	Present	70.7%			
	Not Present	29.3%			
Coparenting Relationship Quality ^P		15.11	8.12	5	29
Social Support ^P		89.80	27.65	34	140

Note. ^PParent report; ^CChild report.

Table 3.1.2 *Bivariate Correlations Among All Study Variables*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Child Age	.													
2. Child Gender	.08	.												
3. Material Resources	.10	.16	.											
4. Neighborhood Safety ^C	-.05	-.07	-.03	.										
5. Neighborhood Cohesion ^C	.05	-.21*	-.12	.45***	.									
6. Relationship Quality ^P	.01	.04	.10	-.03	-.06	.								
7. Monitoring/Involvement ^P	-.18 [†]	.06	.01	.03	-.14	.45***	.							
8. Relationship Quality ^C	-.16	.04	.12	.08	.25*	.23*	.18 [†]	.						
9. Monitoring/Involvement ^C	-.12	.08	.11	.25*	.20*	.16	.24*	.47***	.					
10. Attitudes about Sex ^C	.33**	.27**	.08	.08	.17	-.00	-.05	.18	.10	.				
11. Sexual Intentions ^C	.42***	-.29**	-.03	-.14	-.07	-.04	-.08	-.34**	-.29**	-.09	.			
12. Pre-Coital Behaviors ^C	.26**	-.39***	-.09	-.20 [†]	.05	-.10	-.21*	-.18 [†]	-.15	-.10	.24*	.		
13. Externalizing Behaviors	-.07	-.07	-.03	-.34**	-.06	-.14	-.20 [†]	-.34**	-.25*	-.07	.23*	.19 [†]	.	
14. Social Support ^P	.01	-.14	.11	.05	-.11	.14	.33**	.03	.21*	-.08	.05	.08	-.08	.
15. Coparent Presence ^P	.17 [†]	-.12	.02	-.13	.06	.06	.11	-.11	-.03	.15	.22*	.25*	.12	.16
16. Coparenting Relationship Quality ^P	.02	-.12	.08	-.09	.06	.25*	.31**	.09	.05	.06	.09	.06	.10	.21*

Note. [†] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$. ^PParent report; ^CChild report.

Primary Analyses

Aim 1: Parenting as a mediator between neighborhood quality and youth sexual risk.

In accordance with the proposed data analytic plan, the three study aims were analyzed separately. The first aim of this study was to examine parenting as a mediator in the relation between neighborhood quality and youth sexual risk outcomes.

Measurement model. First, a measurement model (Model 1A) was specified and estimated using MLR estimation in Mplus 7.0. MLR estimation was selected because it is robust to violations of normality and is recommended for small sample sizes (Muthén & Muthén, 2011). Results of the measurement model are displayed in Figure 3. The final measurement model consisted of a confirmatory factor analysis with two latent factors and nine observed variables. The model was scaled by fixing the variance of each latent factor to 1. Overall model fit was evaluated by inspecting several fit indices, including the chi square test of model fit, Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and Comparative Fit Index (CFI). Nonsignificant values closer to 0 on the chi square test indicate better model fit. SRMR values less than or equal to .08 indicate good model fit. RMSEA values less than or equal to .05 indicate good fit, values between .10 and .08 indicate adequate fit, and values greater than .10 indicate poor fit. For the CFI, values greater than .95 indicate good model fit. For this model, all fit indices provided support for good model fit.

One latent factor, parenting, consisted of four indicators: parent-child relationship quality and parental monitoring/involvement, each reported by both parents and youth. Each indicator loaded onto the parenting factor significantly with a factor loading of .25 or greater. The residual variances for parent-reported monitoring/involvement and parent-reported relationship quality were significantly correlated. The second latent factor was youth sexual risk outcomes.

Although this factor was hypothesized to be indicated by four variables (youth attitudes about sex, sex-related intentions, pre-coital behaviors, and externalizing behaviors), only two indicators (sex-related intentions and pre-coital behaviors) were retained in the final model due to low factor loadings for youth attitudes about sex and externalizing behaviors.

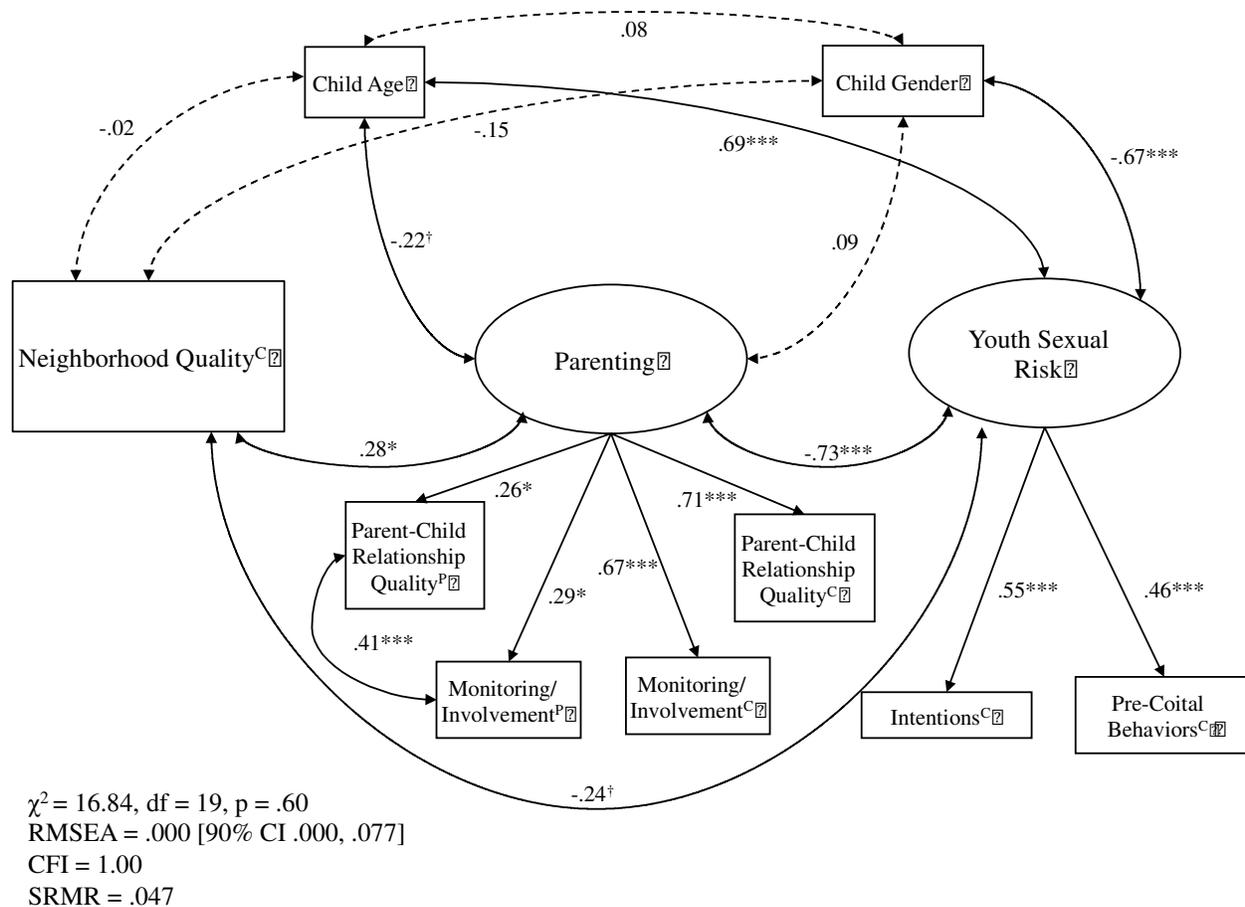


Figure 2. Model 1A: Measurement model for Aim 1 estimating covariance structure among all variables. Note. $^\dagger p < .10$; $*p < .05$; $**p < .01$; $***p < .001$. P Parent report; C Child report.

Structural model. Next, a structural model (Model 1B) was specified with paths from neighborhood quality to parenting and parenting to youth sexual risk. All variables were regressed on child age and gender in order to determine their effects above and beyond these

demographic variables. In addition, an indirect effect from neighborhood quality to youth sexual risk via parenting was specified. Results of the structural model are displayed in Figure 4.

Model fit was evaluated based on the chi square test of model fit, RMSEA, SRMR, and CFI, and all indices provided evidence for good model fit. To evaluate the model fit of the structural model in comparison to the measurement model, a Satorra-Bentler scaled chi-square difference test was computed. This method, which is preferred when using MLR estimation, divides the chi-square value by a scaling correction in order to more accurately estimate chi-square in non-normally distributed samples (Satorra & Bentler, 2001). The chi-square difference test revealed that the model fit of the structural model was not significantly worse than that of the measurement model ($\chi^2_{M2-M1}(1) = 2.31, n.s.$).

Consistent with hypotheses, neighborhood quality was significantly positively related to parenting, such that better (i.e., more safe and cohesive) perceptions of neighborhoods predicted higher levels of positive parenting. Also as hypothesized, parenting was significantly negatively related to youth sexual risk outcomes, such that higher levels of positive parenting predicted fewer risk outcomes. In addition, the indirect effect of neighborhood quality on youth sexual risk via parenting was significant. Specifically, higher levels of neighborhood quality predicted lower levels of youth sexual risk via increases in positive parenting. The indirect effect of neighborhood quality on youth sexual risk via parenting was $-.201, p < .05$.

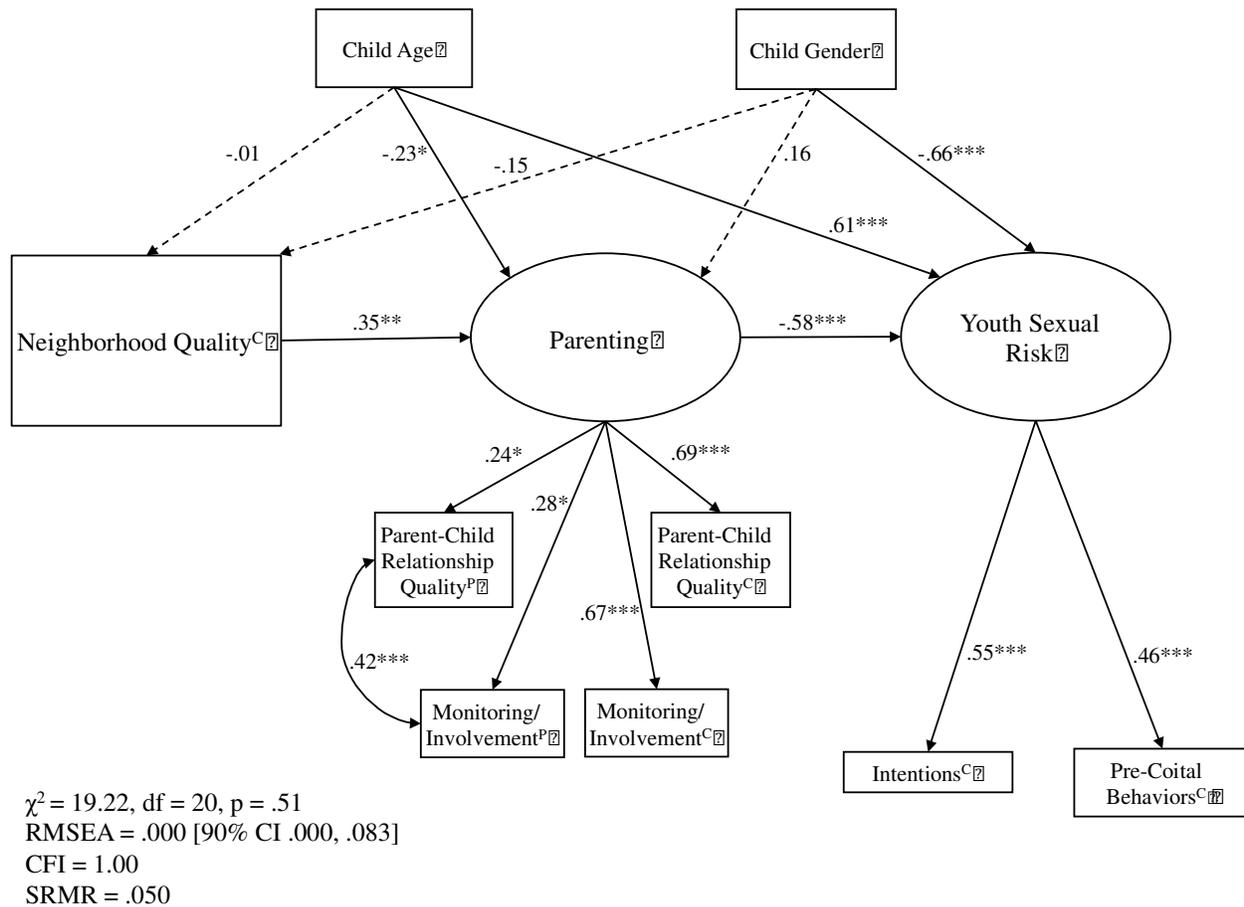


Figure 3. Model 1B: Structural model for Aim 1 estimating the mediating role of parenting in the relation between neighborhood quality and youth sexual risk. Note. * $p < .05$; ** $p < .01$; *** $p < .001$. ^PParent report; ^CChild report.

Aim 2: Main and moderating effects of social support. The second aim of this study was to examine the relations among parental social support, neighborhood quality, and parenting. To examine this aim, the main effects of social support on parenting were first evaluated, followed by the moderating role of social support in the relation between neighborhood quality and parenting.

Measurement model. A measurement model (Model 2A) including social support was specified and estimated using MLR estimation in Mplus 7.0. Consistent with the previous measurement model, two latent factors were specified: parenting, which had 4 observed indicators, and youth sexual risk, which included 2 indicators. Results of the measurement model are displayed in Figure 5. Model fit statistics, including the chi square value, RMSEA, SRMR, and CFI, indicated good model fit.

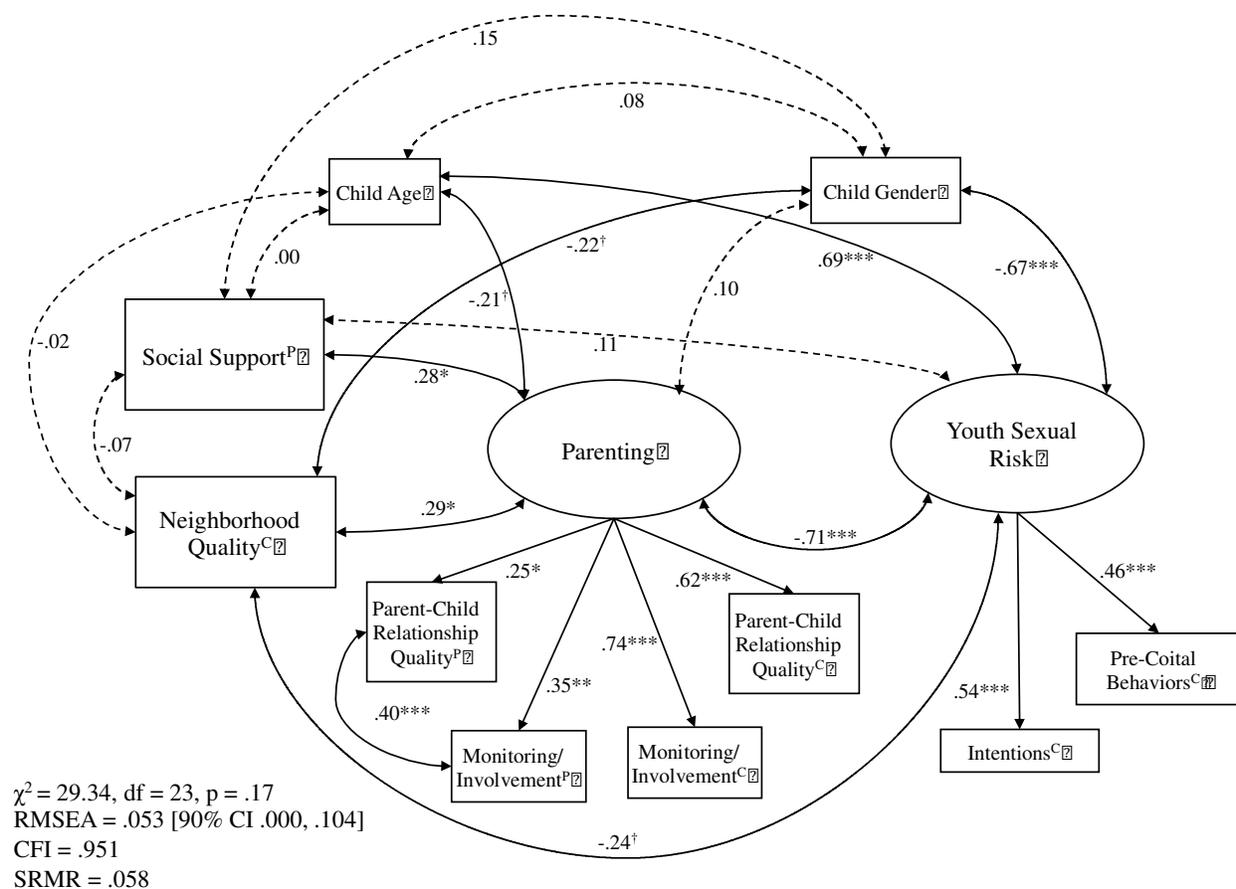


Figure 4. Model 2A: Measurement model for Aim 2 estimating covariance structure among all variables, including parental social support. *Note.* $*p < .05$; $**p < .01$; $***p < .001$. ^PParent report; ^CChild report.

Structural model. A structural model (Model 2B) was specified in order to estimate the main effects of social support. The following paths were specified: neighborhood quality predicting parenting, social support predicting parenting, and parenting predicting youth sexual risk, as well as an indirect effect from neighborhood quality to youth sexual risk via parenting. Results of the main effects structural model are displayed in Figure 6. Model fit statistics indicated good model fit. A Satorra-Bentler scaled chi-square difference test revealed that the structural model was not significantly worse-fitting than the measurement model ($\chi^2_{M2-M1}(3) = 5.39, n.s.$). The pattern of relations among neighborhood quality, parenting, and youth sexual risk, including indirect effects, was consistent with parameter estimates in Aim 1 (Model 1B). The model indicated a main effect for social support, which was positively related to parenting. Parents who reported higher levels of support from family and friends had higher levels of positive parenting.

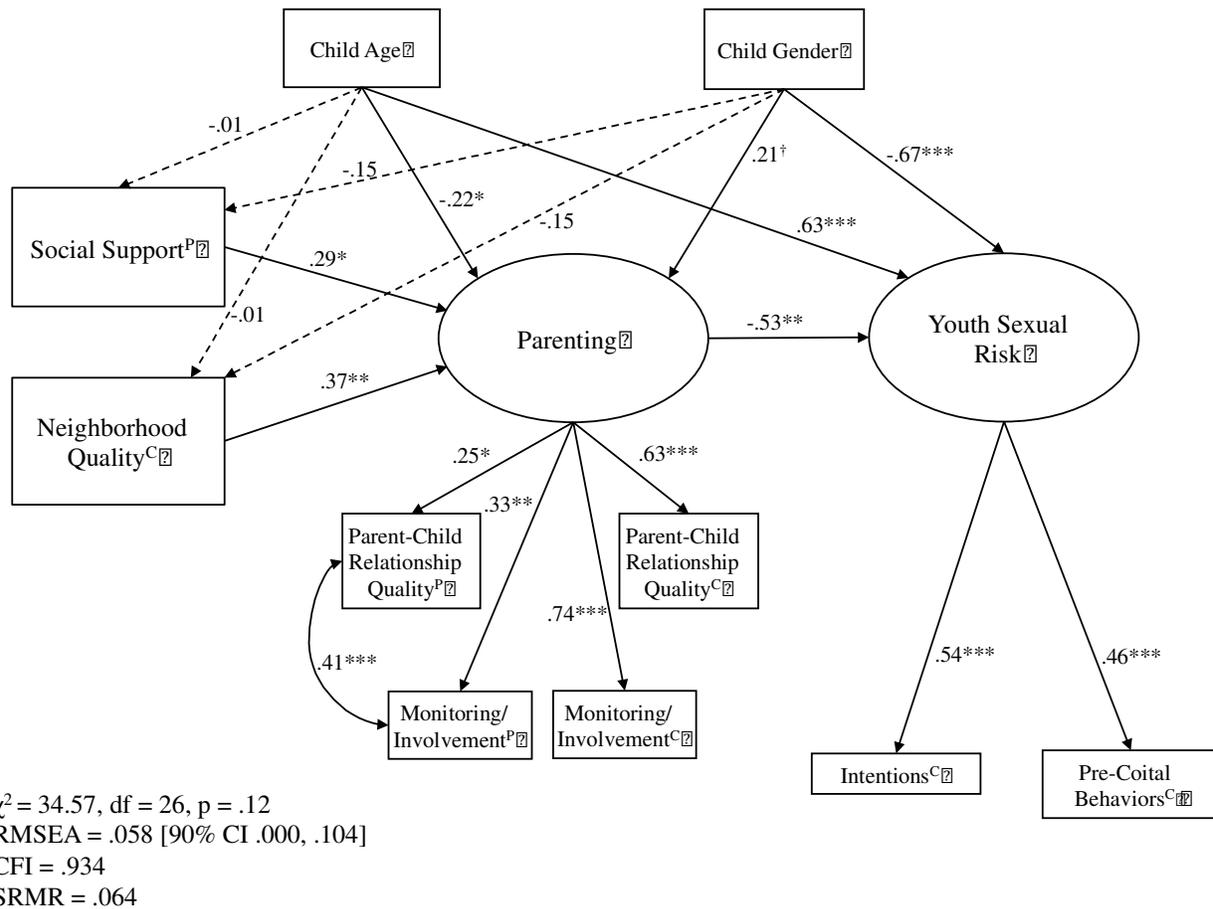
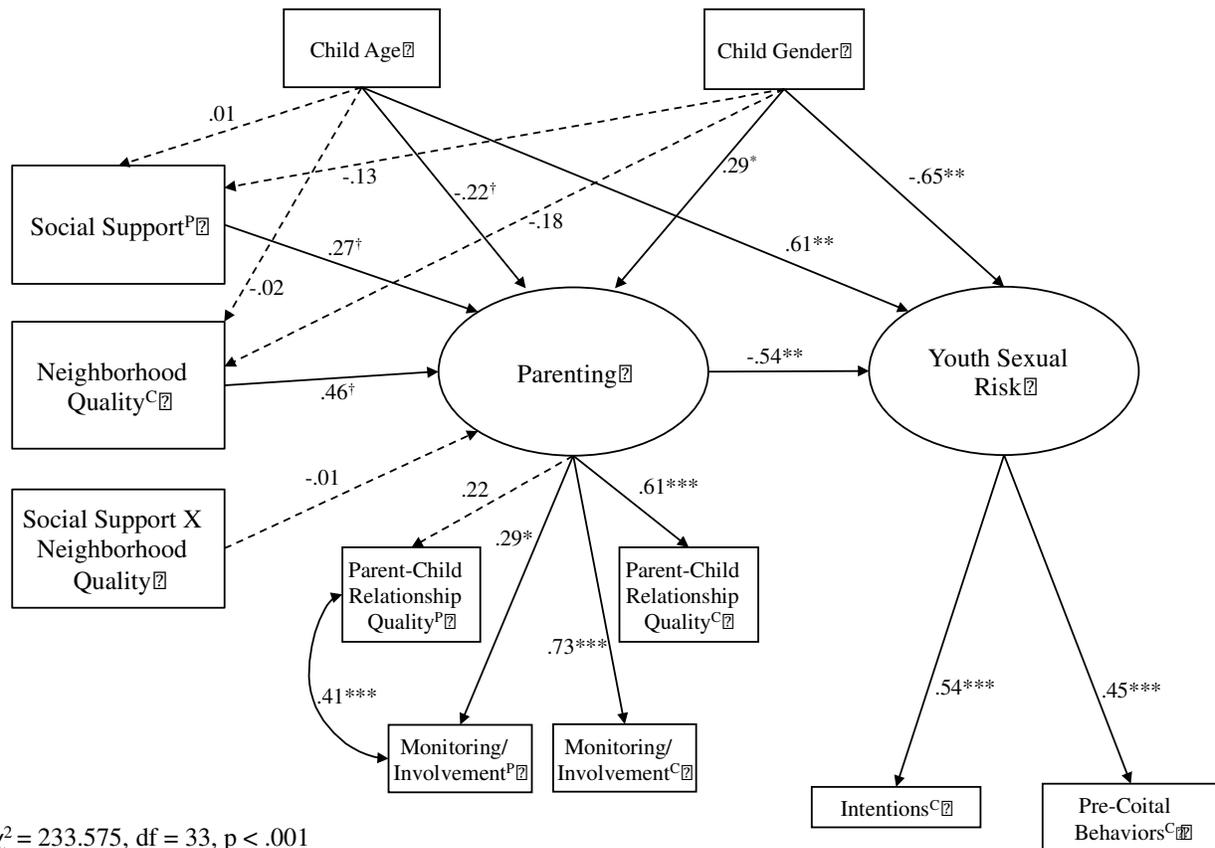


Figure 5. Model 2B: Structural model for Aim 2 estimating main effects of social support on parenting. Note. * $p < .05$; ** $p < .01$; *** $p < .001$. ^PParent report; ^CChild report. Standardized parameter estimates presented.

To test the moderating effects of social support in the relation between neighborhood quality and parenting, a structural model (Model 2C) was specified with the following hypothesized paths: neighborhood quality predicting parenting, social support predicting parenting, parenting predicting youth sexual risk, and a social support by neighborhood quality interaction predicting parenting. Additionally, an indirect effect from neighborhood quality to

youth sexual risk via parenting was specified. Results of the moderation structural model are displayed in Figure 7.

Model fit statistics, including the RMSEA, SRMR, CFI, and chi square, indicated poor model fit. A Satorra-Bentler scaled chi-square difference test comparing revealed that this structural model was significantly worse-fitting than the measurement model ($\chi^2_{M2-M1}(10) = 158.12, p < .05$). Although parameter estimates largely mirrored the pattern of the main effects structural model (Figure 6), the social support by neighborhood quality interaction did not significantly predict parenting ($\beta = -.009, n.s.$). Moreover, the indirect effect of neighborhood quality on youth sexual risk via parenting became nonsignificant ($\beta = -.249, n.s.$).



$\chi^2 = 233.575$, $df = 33$, $p < .001$
 RMSEA = .253 [90% CI .223, .284]
 CFI = .362
 SRMR = .133

Figure 6. Model 2C: Structural model for Aim 2 specifying moderating role of social support in the relation between neighborhood quality and parenting. Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

^PParent report; ^CChild report. Standardized parameter estimates presented.

Aim 3: Coparenting as a moderator between parenting and youth sexual risk. The final aim of this study was to examine coparenting as a moderator in the relation between neighborhood quality and parenting.

Measurement models. Two measurement models including aspects of coparenting were specified and estimated using MLR estimation in Mplus 7.0. The first measurement model (Model 3A), displayed in Figure 8, included presence (versus absence) of a coparent, and the second measurement model (Model 3B), displayed in Figure 9, included coparenting relationship quality. According to the RMSEA, CFI, chi square, and SRMR, both measurement models (i.e. Model 3A, Figure 8; Model 3B, Figure 9) demonstrated good model fit. The covariance structures among the variables in both measurement models were largely consistent with hypotheses and consistent with the previously reported measurement models.

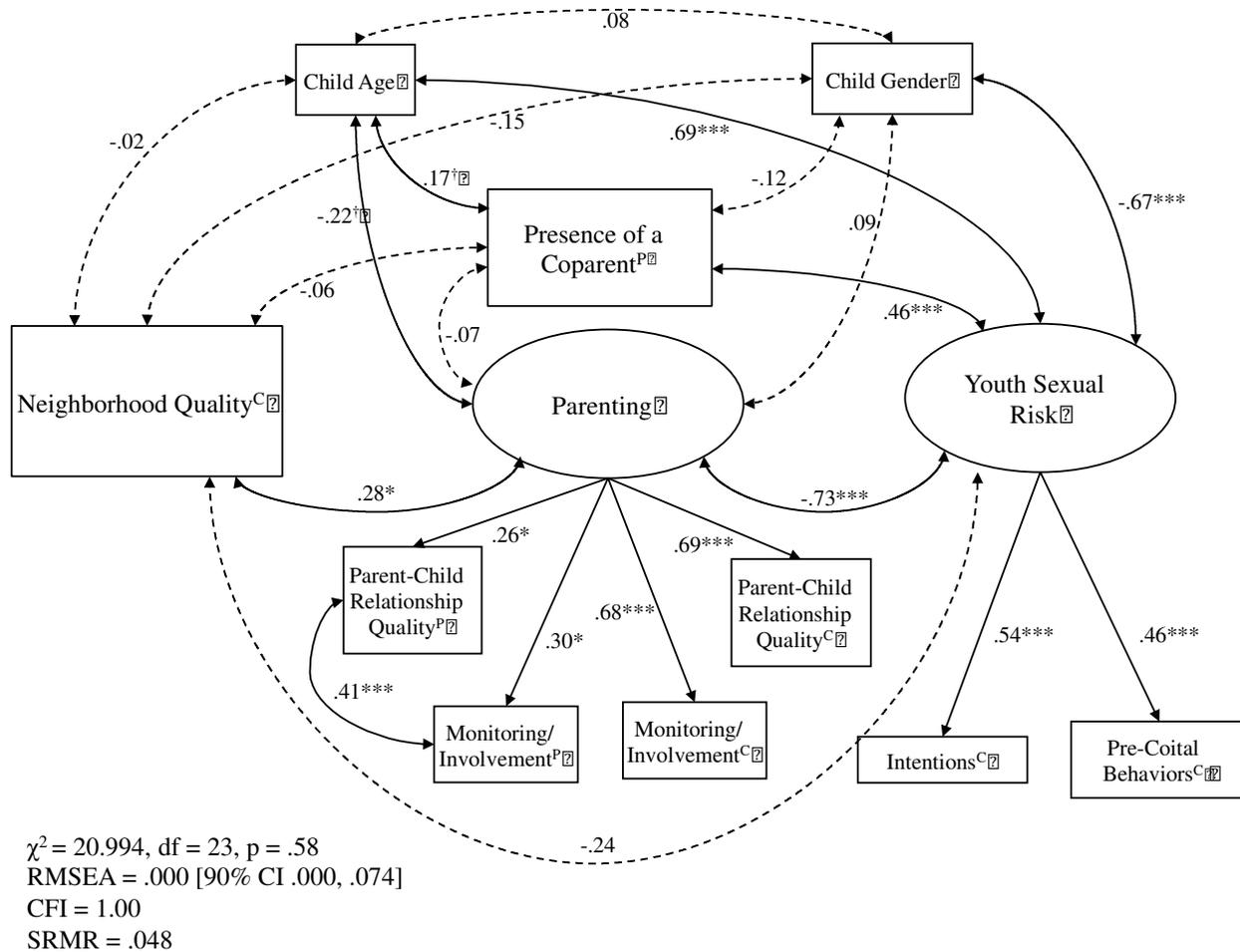


Figure 7. Model 3A: Measurement model for Aim 3 estimating covariance structure among all variables, including presence of a coparent. Note. $^{\dagger}p < .10$; $*p < .05$; $**p < .01$; $***p < .001$.

^PParent report; ^CChild report. Standardized parameter estimates presented.

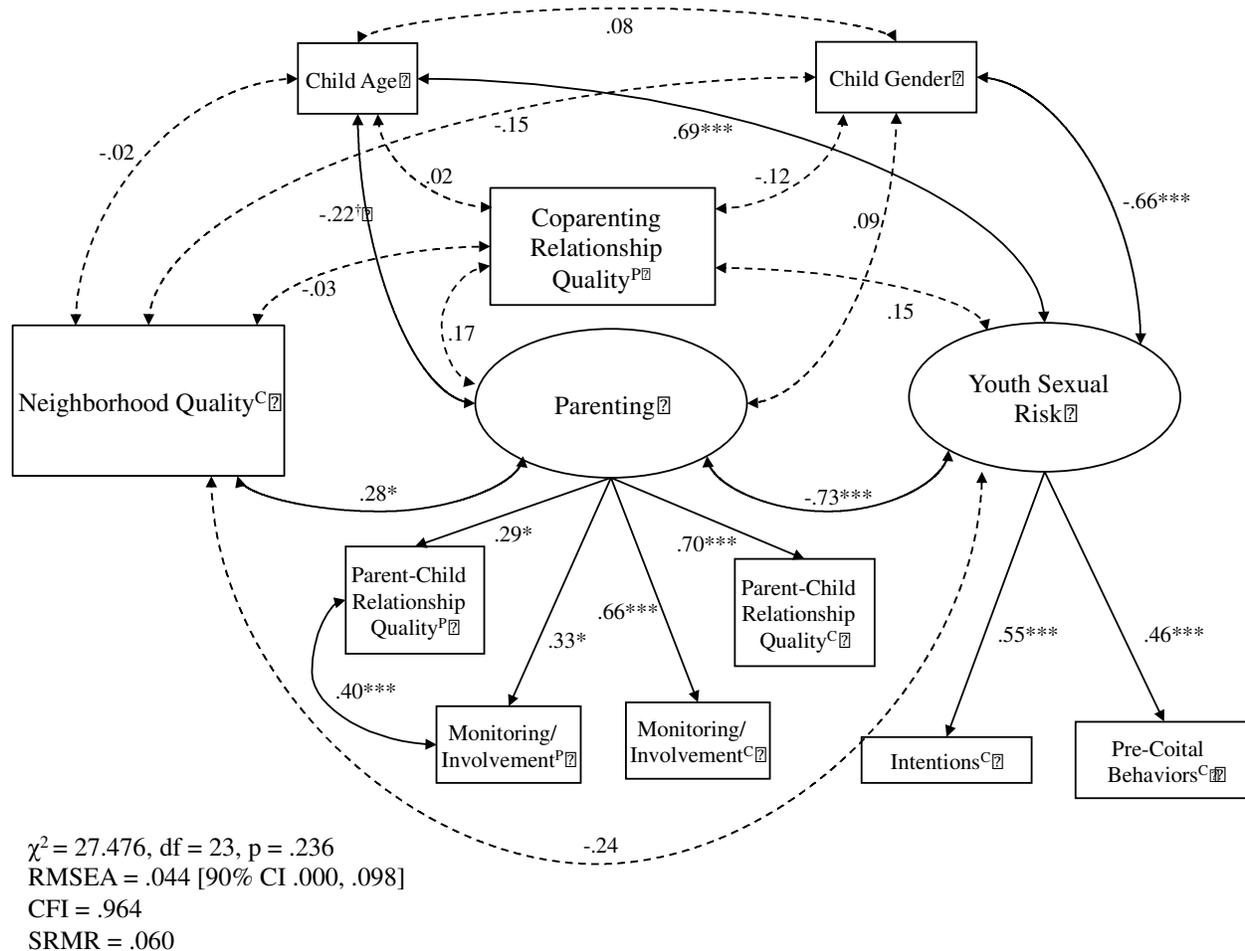


Figure 8. Model 3B: Measurement model for Aim 3 estimating covariance structure among all variables, including coparenting relationship quality. Note. $^{\dagger}p < .10$; $*p < .05$; $**p < .01$; $***p < .001$. P Parent report; C Child report. Standardized parameter estimates presented.

Structural models. In Aim 3, two types of moderation were tested with a total of three structural models. First, multiple group analysis was utilized to examine the presence of a coparent as a dichotomous moderator in the relation between parenting and youth sexual risk.

This analysis included two models: Model 3C (Figure 10), which constrained all path coefficients to be equal across groups, and Model 3D (Figure 11), which unconstrained the path from parenting to youth sexual risk across the groups. The second type of moderation analysis included a latent interaction model (Model 3E; Figure 12) estimating the moderating role of coparenting relationship quality in the relation between parenting and sexual risk. Each of these models is presented below, beginning with coparent presence.

Coparent presence. To test the moderating role of coparent presence, a multiple group analysis was specified with two groups: “coparent present” ($n = 70$) and “no coparent present” ($n = 29$). Multiple group analysis allows for the examination of a dichotomous moderator by comparing a structural model in which paths are specified to be invariant across groups to a structural model in which paths are freely estimated across groups (Farrell, 1994; Holmbeck, 1997, Muthén & Muthén, 2011). If model fit is significantly improved when the paths are freed to vary across groups, there is evidence for moderation. However, if the fit of the two models are not significantly different, moderation effects are not present.

In model 3C (Figure 10), all structural paths were constrained to be equal or invariant across the two groups. This model demonstrated poor model fit. A Satorra-Bentler scaled chi-square difference test comparing this model to the corresponding measurement model (Model 3A; Figure 8) demonstrated that the invariant structural model was significantly worse-fitting than the measurement model ($\chi^2_{M2-M1}(34) = 68.28, p < .05$), suggesting that model misfit is primarily a result of misspecified structural paths, as opposed to measurement of latent variables. When constrained, the unstandardized path coefficient from parenting to youth sexual risk was $-0.27, n.s.$ Because this type of analysis constrains unstandardized (vs. standardized) coefficients to be invariant across groups, the unstandardized results are presented in Figure 10.

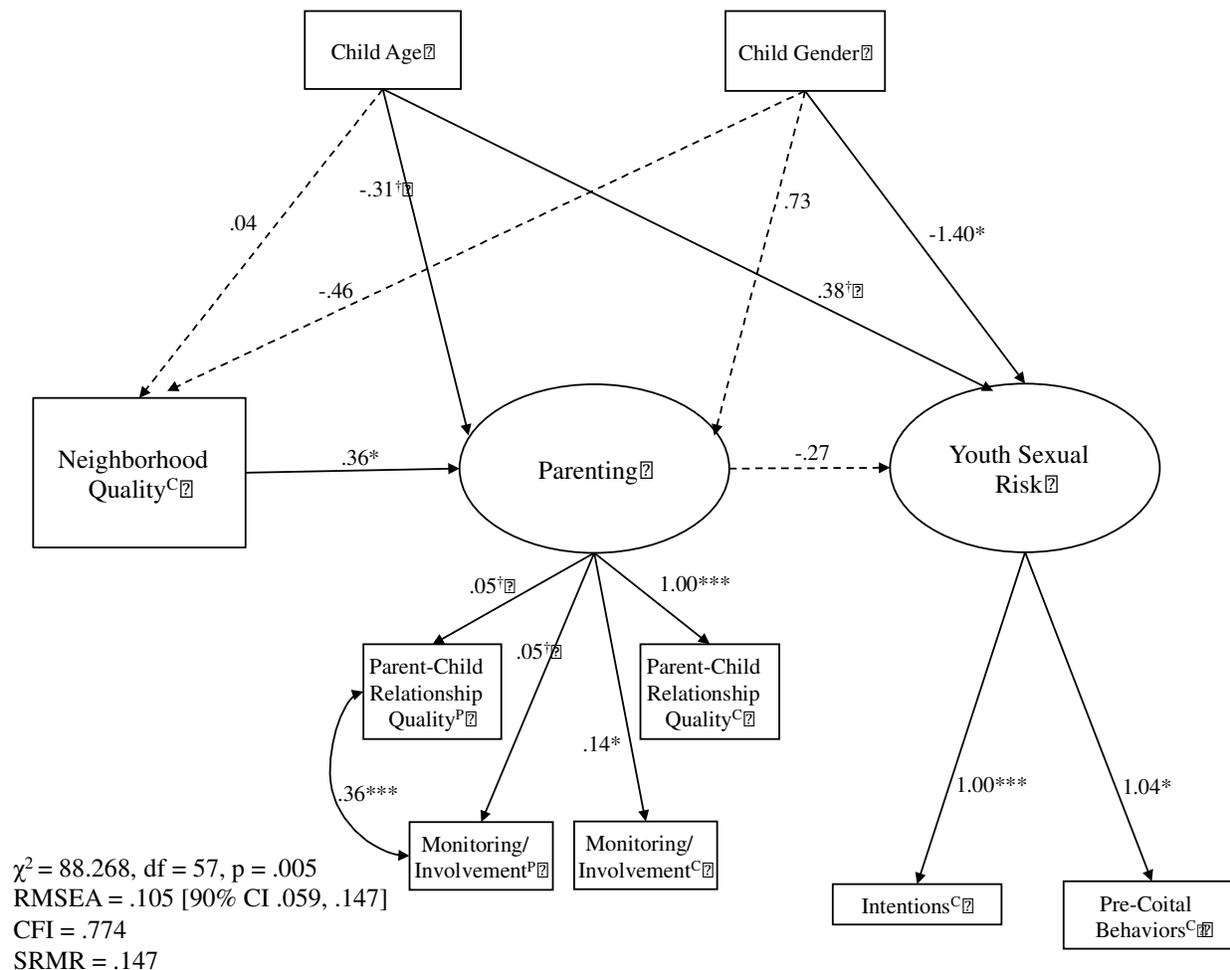


Figure 9. Model 3C: Structural model for Aim 3 estimating multiple group analysis with two groups: “coparent present” and “no coparent present.” Note. $*p < .05$; $**p < .01$; $***p < .001$.

^PParent report; ^CChild report. All path coefficients constrained to be invariant across groups.

Unstandardized parameter estimates presented.

Next, in model 3D (Figure 11), the path from parenting to youth sexual risk was left unconstrained between the two groups. A Satorra-Bentler scaled chi-square difference test comparing this model to the invariant model (Model 3C, Figure 10) demonstrated that

unconstraining the path from parenting to youth sexual risk did not significantly improve model fit, ($\chi^2_{M2-M1}(1) = 2.55, n.s.$). Although path coefficients between the two groups were slightly different from one another in the unconstrained model (i.e., “coparent present” $B = -.1583, n.s.$; “no coparent present” $B = -.157, n.s.$), the Satorra-Bentler scaled chi-square difference test indicates that the invariant and unconstrained models were not significantly different. Thus, the presence of a coparent was not found to moderate the relation between parenting and youth sexual risk. Figure 11 displays the results for the structural model, including coefficients for the path from parenting to youth sexual risk for both the “coparent present” group and the “no coparent present” group. As in Model 3C, unstandardized path coefficients are presented.

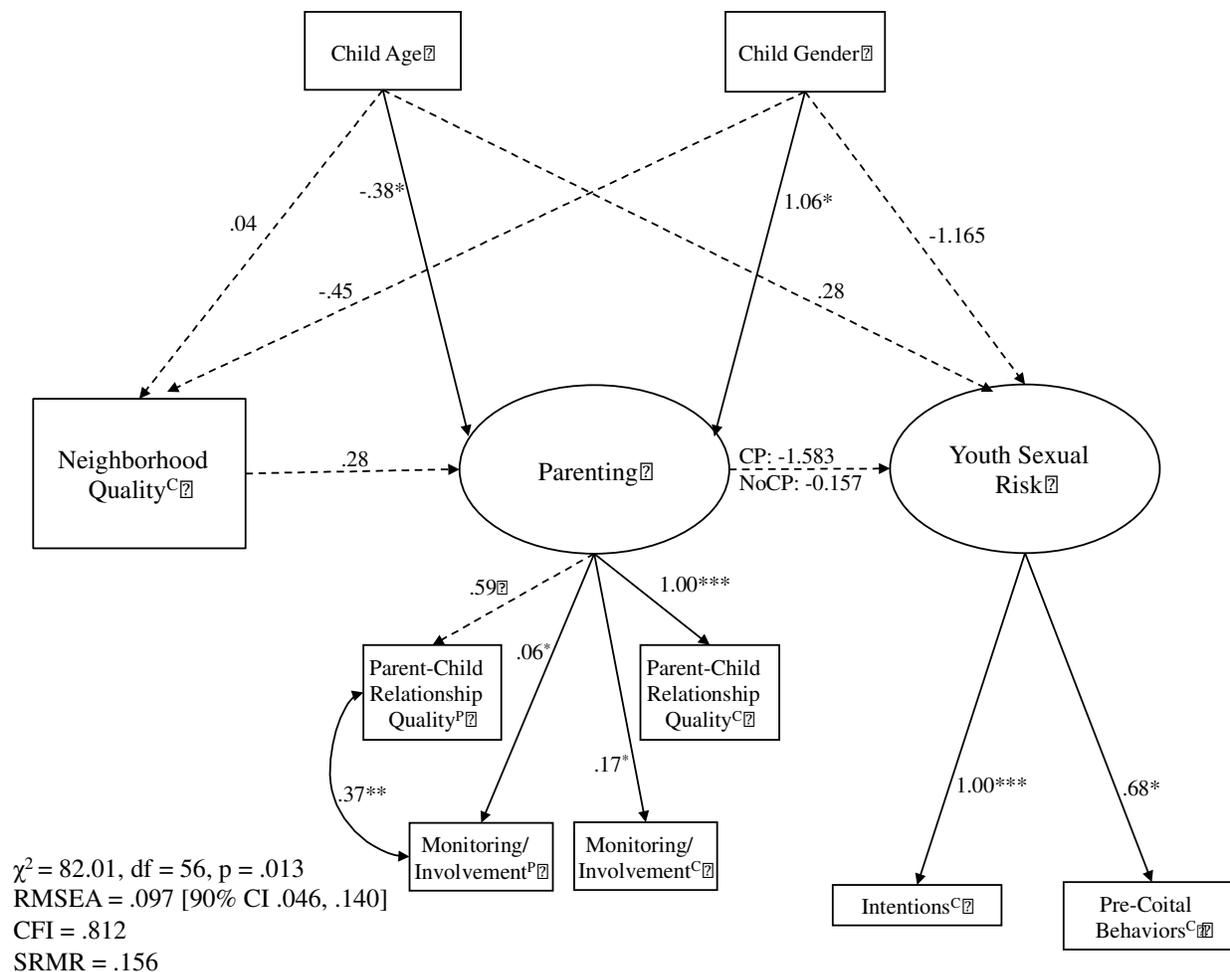


Figure 10. Model 3D: Structural model for Aim 3 estimating multiple group analysis with two groups: “coparent present” and “no coparent present.” Note. $*p < .05$; $**p < .01$; $***p < .001$.

^PParent report; ^CChild report. CP: “Coparent Present” group; NoCP: “No Coparent Present” group. All path coefficients constrained to be invariant across groups except the path from parenting to youth sexual risk. Unstandardized parameter estimates presented.

Coparenting relationship quality. Model 3E (Figure 12) included the following hypothesized paths: neighborhood quality predicting parenting, parenting predicting youth sexual risk, and a parenting by coparenting relationship quality interaction predicting youth sexual risk. The interaction between coparenting relationship quality and parenting predicting youth sexual risk was estimated using Quasi-Maximum Likelihood Estimation (Klein & Muthén, 2007). Indirect effects were not specified in this model because latent interaction models do not allow for the estimation of indirect effects. Additionally, fit statistics and standardized parameter estimates are not available in latent interaction models. Results indicated that the interaction between coparenting relationship and parenting predicting youth sexual risk was not significant ($B = -.035, n.s.$), and therefore the interaction was not probed. Figure 12 displays the unstandardized parameter estimates for the latent interaction model.

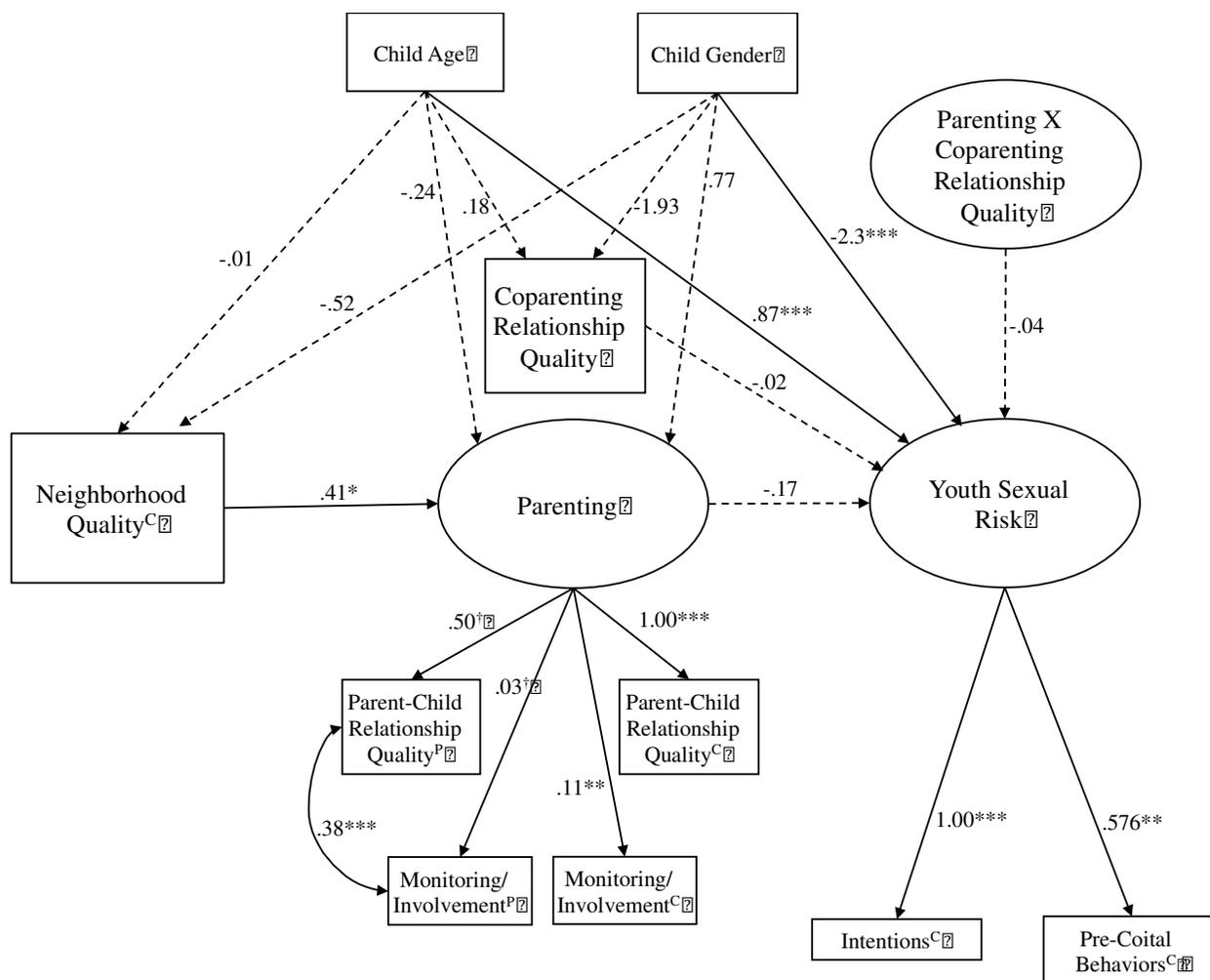


Figure 11. Model 3E: Structural model for Aim 3 estimating a latent interaction between parenting and coparenting relationship quality predicting youth sexual risk. Note. * $p < .05$; ** $p < .01$; *** $p < .001$. ^PParent report; ^CChild report. Unstandardized parameter estimates presented.

DISCUSSION

The purpose of the current study was to examine contextual family- and community-level processes predicting youth sexual risk. The first aim was to investigate the mediating role of parenting in the relation between neighborhood quality and youth sexual risk. The second aim was to examine social support as a direct predictor of parenting and as a moderator in the relation between neighborhood quality and parenting behaviors. The third aim was to examine the coparenting relationship as a moderator in the relation between parenting and youth sexual risk and externalizing outcomes. In Aim 1, consistent with hypotheses, parenting mediated the relation between neighborhood quality and youth sexual risk. Specifically, more positive perceptions of neighborhoods predicted fewer youth sexual risk outcomes via higher levels of positive parenting. In Aim 2, results provided support for the main effect, but not buffering, model of social support. Higher levels of social support directly predicted more positive parenting, but social support did not interact with neighborhood quality to impact parenting. Hypotheses in Aim 3 were not supported. Contrary to hypotheses, neither the presence of a coparent nor coparenting relationship quality moderated the relation between parenting and youth sexual risk.

Descriptive Summary

As reported in Table 1, youth reported moderate levels of neighborhood safety and relatively high levels of neighborhood cohesion. Parent and youth reports of parent-child relationship quality and parental monitoring/involvement were largely consistent with one another. Overall, youths' reports of sexual risk behaviors were low. Youths' reported attitudes about sex were moderately protective overall, and youth also reported engaging in few externalizing behaviors. Youth intentions to engage in sexual behaviors were also generally low.

For example, only 3% of girls and 8.1% of boys reported that they had thought about having sex with another boy or girl. Similarly, most youth reported engaging in few sexual behaviors.

Approximately half (51.5%) of the sample reported engaging in 3 or fewer pre-coital behaviors.

Bivariate correlations largely reflected expected associations. However, contrary to what was expected based on previous literature (Bongers, Koot, van der Ende, & Verhulst, 2004), age and gender did not correlate with youth externalizing behaviors. Overall, youth in this sample reported relatively few externalizing behaviors. Age and gender effects may have been more evident if there were more variability in externalizing behavior among the youth. Also contrary to expectations, material resources was not correlated with any other study variable. This lack of association may be attributed to the relatively narrow range of material resources represented in our sample. For example, the majority (71%) of the sample reported living in a brick home. The lack of association between material resources and youth-reported neighborhood quality suggests that youths' perceptions of the degree of safety and cohesion in their neighborhoods was not dependent on objective measures of socioeconomic status. Youth in lower-resourced households did not perceive their neighborhoods as significantly less safe or cohesive than youth with more resources.

Primary Findings

Aim 1: Parenting mediates the relation between neighborhood quality and youth sexual risk. The measurement model in Aim 1 demonstrated good model fit, suggesting that the latent constructs of parenting and youth sexual risk were accurately measured by the observed indicators. Specifically, the findings provide evidence that monitoring/involvement and parent-child relationship quality, as reported by both youth and parents, tap into a common underlying construct of positive parenting. Although these variables measure distinct dimensions of

parenting, they also share important variance that underlies the construct of parenting. It is noteworthy that the factor loadings for youth-reported variables are much higher than those for parent-reported variables, suggesting that this latent variable may largely be driven by youth report.

In the current sample, sex-related intentions and pre-coital behaviors comprised a latent variable of youth sexual risk. Although externalizing behaviors and youth attitudes about sex were initially hypothesized to be indicators of sexual risk, these two variables did not load onto the sexual risk factor. This pattern of findings is inconsistent with Jessor and Jessor's (1977) problem behavior theory, as the four hypothesized aspects of problem behavior did not load on to the same underlying construct as expected. This inconsistency may partially reflect the limited variability in these variables and the low overall base rates of problem behaviors reported in this sample. This pattern may also suggest that intentions to engage in sexual behaviors as well as engaging in pre-coital behaviors are the most accurate indicators of sexual risk for these youth. These findings are consistent with the theory of planned behavior (Ajzen, 1985), as sex-related intentions and behavior were highly correlated and both loaded strongly onto the sexual risk factor.

The hypotheses in Aim 1 were supported by the structural model. As previously demonstrated in the U.S. (Kotchick et al., 2005; McLoyd, 1990), safer and more cohesive neighborhoods promoted positive parenting in the current sample. Although these findings were consistent with the hypotheses as well as most of the previous literature, the pattern is inconsistent with a few studies that indicate that monitoring is enhanced in the context of poor neighborhood quality (e.g., Armistead et al., 2002; Jones et al., 2005). This inconsistency may be due to the fact that the current study examined positive parenting more globally as a latent

construct, rather than examining monitoring alone. Furthermore, youth in the current sample reported generally high levels of neighborhood safety and cohesion. The effect of neighborhood quality on parenting may have been somewhat different if youth reported living in unsafe, non-cohesive neighborhoods.

Also consistent with hypotheses and a large body of U.S.-based literature, more positive parenting predicted less sexual risk, highlighting the important role of parenting in influencing youth risk outcomes. These findings are also consistent with a small but growing body of literature in South Africa suggesting similar patterns. Despite vastly different family and community contexts between the U.S. and South Africa, parenting appears to play a similarly important role for youth in both settings.

Finally, results of Aim 1 demonstrated that parenting mediated the relation between neighborhood quality and youth sexual risk, such that more positive perceptions of neighborhoods predicted fewer youth sexual risk outcomes via higher levels of positive parenting. This finding mirrors previous U.S.-based research suggesting that neighborhood quality may “spill over” into parenting and, in turn, affect youth adjustment (e.g., Kotchick et al., 2005; Odgers et al., 2012). Taken together, the results of Aim 1 highlight the importance of considering family-level processes such as parenting in the context of community environments. Parenting interventions aimed at reducing HIV risk among South African youth should take into consideration neighborhood settings.

Aim 2: Social support directly affects parenting. The second aim of this study sought to examine the role of parents’ perceived social support as either a moderator between neighborhood quality and parenting or as a direct predictor of parenting. The current study compared two models of social support, a main effects model suggesting that social support

would have a direct positive effect on parenting, and a buffering model suggesting that social support would buffer parents against the negative effects of neighborhood risk. Results of this study were consistent with the main effects model. There was a significant positive main effect of social support on parenting, such that parents who perceived more support from friends and family also exhibited better parenting. The effect of social support on parenting did not differ depending on the families' stress level (i.e. neighborhood quality). Families living in safer and more cohesive neighborhoods appeared to benefit from social support as much as families living in less safe and cohesive neighborhoods. One possible explanation for this finding is that the measure of social support utilized in this study assesses perceived availability of social support, but does not assess the perceived adequacy of this support. In their review, Cohen and Wills (1985) asserted that social support must be perceived as satisfactory and adequate in order to buffer individuals against the maladaptive effects of stress. Based on our measurement approach, it is possible that caregivers in this study perceived that social support was available in their lives, but did not consider this support to be adequate or satisfactory. This measurement approach may be more reflective of social embeddedness, which tends to be consistent with the main effect model, than functional social support, which tends to be consistent with the buffering model. Importantly, it is unlikely that the relation between social support and parenting was primarily due to common reporter variance, given that the latent variable for parenting was largely driven by youth-reported parenting indicators.

Aim 3: Coparenting does not moderate the relation between parenting and youth sexual risk. The third aim of this study was to examine two aspects of coparenting (i.e., presence of a coparent and coparenting relationship quality) as moderators in the relation between parenting and youth sexual risk. Hypotheses of Aim 3 were not supported. The relation

between parenting and youth sexual risk was not moderated by the presence of a coparent or by coparenting relationship quality. These findings are inconsistent with U.S.-based literature suggesting that coparenting promotes the beneficial effects of parenting (Cook et al., 2009; Forehand & Jones, 2003). This inconsistency may be partially due to the limited sample size and the distribution of families with and without a coparent. The use of multiple group analysis limited the sample size within each group to 70 for the “coparent present” group and only 29 for the “no coparent present” group. Thus, the moderation analysis for coparent presence was largely underpowered to detect an effect, if there is one. Given that the path coefficient in the relation between parenting and youth sexual risk was somewhat larger for the “coparent present” group, it is possible that with a larger sample size, a significant moderation effect may have been detected. With respect to the latent interaction analysis between parenting and coparenting relationship quality in predicting youth sexual risk, although the full sample was retained by assigning a score of 5 to parents who did not identify a coparent ($n = 29$), the limited variability among these parents may have inhibited the power to detect an interaction effect. An interaction effect may have been detectable in a larger sample in which all parents reported the involvement of a coparent.

Additionally, the measurement of coparenting used in this study may contribute to the inconsistent findings. Measuring coparenting dichotomously, as presence vs. absence of a coparent, may not accurately capture the processes involved in coparenting. In addition, the measure for coparenting relationship quality utilized in the current study was initially developed among middle class divorced families in the U.S. and has been validated primarily among U.S. samples. Despite our attempts to ensure cultural relevance via formative qualitative work, the measurement of coparenting may not accurately reflect the South African context. Other aspects

of coparenting may be more relevant than communication, support, and conflict. For example, perhaps more tangible parenting responsibilities and involvement are more salient for Black South African families. It is also possible that coparenting responsibilities are shared among a group of family members, rather than with an individual secondary caregiver.

Limitations

The current study should be interpreted in light of its limitations. The primary limitation of this study was that the analyses (particularly the moderation analyses) were underpowered due to the small sample size. Also, the cross-sectional nature of this study precludes causal inferences. These findings should be replicated longitudinally and in a larger sample. Furthermore, several of the measures employed in this study were developed in the U.S. and were not validated in a large South African sample. Although measures were modified for cultural sensitivity based on qualitative formative work, the psychometrics of these measures in a Black South African context are unclear. Future research should consider the reliability and validity of U.S.-based measures in South Africa. Finally, the results of this study cannot be generalized beyond the specific population of Xhosa-speaking, black South Africans in the Cape Town area. Findings may be different among other ethnic groups in South Africa, among black South Africans in other parts of the country, or among groups from other countries.

Implications and Directions for Future Research

Despite its limitations, this study represents an important contribution to our understanding of contextual influences on risk of HIV infection among black South African youth. The current study is the first study to examine the mediating role of parenting in the relation between neighborhood context and youth sexual risk in South Africa. This study also represents the first investigation of the roles of social support and coparenting in these processes.

Consistent with a call to consider youths' perceptions of neighborhood quality (Silk et al., 2004), the inclusion of youth-reported neighborhood quality fills an important gap in neighborhood research, which has primarily focused on caregivers' perceptions.

The current study sought to advance knowledge of youth sexual risk by considering important contextual factors at the family and community levels. Taking into account previous empirical research as well as relevant South African cultural norms, this study examined a culturally informed model of youth sexual risk in an attempt to promote an understanding of HIV prevention and risk reduction among these youth. Results of this study suggest that contextual variables play an important role for youth sexual risk and, in turn, risk of HIV infection. HIV prevention interventions should be informed by family-level processes including parenting, as well as community-level processes such as neighborhood quality. Holistic and culturally-informed approaches to intervention will enhance the effectiveness of these interventions in reducing HIV risk.

Future studies should examine these processes longitudinally and among larger samples. Additionally, given that many of these processes are largely understudied in a South African context, qualitative work may help deepen our understanding of these processes and clarify future directions for research and intervention. For example, a qualitative exploration of coparenting and parental social support may be useful in clarifying the function of these processes for Black South African caregivers and their families. Further, given the high prevalence of HIV among South Africans, an examination of whether and how parental HIV status influences these processes and, in turn, youth HIV risk is also an important next step.

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APPENDICES

Appendix A: Household Economic and Social Status Index (Parent Report)

Here are some questions about you, your family, and where you live.

1. In what type of house/home do you and your child live?
 - 1 = None, homeless
 - 2 = Shack
 - 3 = Hostel
 - 4 = Room, garage
 - 5 = Flat
 - 6 = Brick house
 - 8 = Refuse to Answer

2. Is the brick house shared with another family or families?
 - 0 = No
 - 1 = Yes
 - 8 = Refuse to Answer

3. Does your home have a separate kitchen?
 - 0 = No
 - 1 = Yes
 - 8 = Refuse to Answer

4. Does your home have a separate bathroom?
 - 0 = No
 - 1 = Yes
 - 8 = Refuse to Answer

5. In your home, how many separate rooms are there just for sleeping?
 - 0 - 10 = range
 - 98 = Refuse to Answer

6. What type of toilet facilities does your home have?
 - 1 = None
 - 2 = Bucket
 - 3 = Outside Flush Toilet
 - 4 = Inside Flush Toilet
 - 8 = Refuse to Answer

7. Do you own or rent a home?

- 1= Neither
- 2= Rent
- 3= Purchasing on Bond
- 4= Own
- 8= Refuse to Answer

8. Does the place you live in have a:

a. Fridge

- 0= No
- 1= Yes
- 98= Refuse to Answer

b. TV

- 0= No
- 1= Yes
- 98= Refuse to Answer

c. Telephone or Cell Phone

- 0= No
- 1= Yes
- 98= Refuse to Answer

d. Car

- 0= No
- 1= Yes
- 98= Refuse to Answer

e. DVD player

- 0= No
- 1= Yes
- 98= Refuse to Answer

f. Washing Machine

- 0= No
- 1= Yes
- 98= Refuse to Answer

g. Microwave Oven

- 0= No
- 1= Yes
- 98= Refuse to Answer

h. Oven or Stove

- 0= No
- 1= Yes
- 98= Refuse to Answer

9. Is there a day in the last month when your child has gone without food?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

10. On an average day, how many meals does your child have?

- 0 - 10= range
- 97= Don't Know
- 98= Refuse to Answer

11. In the last six months, how often has your child gone hungry because you have not had food?

- 1= Never
- 2= Rarely
- 3= Sometimes
- 4= Often
- 5= Always
- 7= Don't Know
- 8= Refuse to Answer

Appendix B: Youth Sexual Attitudes (Youth Report)

1. People should have sex only if they are married.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

2. I think it is OK to have sex as long as I protect myself from STDs and pregnancy.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

3. I think it's OK to take gifts in exchange for sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

4. I think it's OK for men older than 18 years old to have sex with girls younger than 18 years old.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

5. I think I should wait until I'm older to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

6. I think I should wait until I'm in love to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

7. I think I should wait until I'm married to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

8. I think I should use condoms if I have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

9F. If I have sex, I should use condoms even if I use birth control.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

9M. If I have sex, I should use condoms even if my girlfriend uses birth control.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

10F. If I have sex, I should use condoms even if my boyfriend and I know each other very well.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

10M. If I have sex, I should use condoms even if my girlfriend and I know each other very well.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

11. It's important that I be able to talk about sex with an adult before I begin to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

12. It's important that I know how to get and use birth control before I begin to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

13. It's important that I know how to get and use a condom before I begin to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

14. It's important that I be able to talk with my partner about pregnancy and diseases like HIV before I begin to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

15. It's important that I understand how a female gets pregnant before I begin to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

16. It's important that I know how alcohol and drugs can affect my ability to make decisions before I begin to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

Appendix C: Youth Sexual Intentions (Youth Report)

1F. How many times have you thought about touching a boy's private parts or having a boy touch your private parts?

- 1= I've never thought about it
- 2= I've thought about it once or twice
- 3= I've thought about it some
- 4= I've thought about it lots of times
- 5= I'm not sure or I don't know
- 8= Refuse to Answer

1M. How many times have you thought about touching a girl's private parts or having a girl touch your private parts?

- 1= I've never thought about it
- 2= I've thought about it once or twice
- 3= I've thought about it some
- 4= I've thought about it lots of times
- 5= I'm not sure or I don't know
- 8= Refuse to Answer

2F. How many times have you thought about having sex with a boy?

- 1= I've never thought about it
- 2= I've thought about it once or twice
- 3= I've thought about it some
- 4= I've thought about it lots of times
- 5= I'm not sure or I don't know
- 8= Refuse to Answer

2M. How many times have you thought about having sex with a girl?

- 1= I've never thought about it
- 2= I've thought about it once or twice
- 3= I've thought about it some
- 4= I've thought about it lots of times
- 5= I'm not sure or I don't know
- 8= Refuse to Answer

3. The next statements ask you how likely it is that you will or will not have sex in the next year. Choose the one that is most true for you.

- 1= I'm sure that I won't have sex in the next year
- 2= I probably won't have sex in the next year
- 3= There is an even chance that I will or will not have sex in the next year
- 4= I probably will have sex in the next year
- 5= I'm sure that I will have sex in the next year
- 7= Don't Know
- 8= Refuse to Answer

4. I think I am ready to have sex.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

5. I would like to have sex to see what it is like.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

- 6F. I would have sex now if I had a boyfriend who would do it with me.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

- 6M. I would have sex now if I had a girlfriend who would do it with me.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

7F. I would have sex now if I could find any boy who would do it with me.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

7M. I would have sex now if I could find any girl who would do it with me.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

Appendix D: Youth Pre-coital Behaviors (Youth Report)

1F. Have you ever liked someone and wanted them to be your boyfriend?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

1M. Have you ever liked someone and wanted them to be your girlfriend?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

2F. Have you ever had a boyfriend?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

2M. Have you ever had a girlfriend?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

3F. Do you have a boyfriend right now?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

3M. Do you have a girlfriend right now?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

4F. Have you ever hugged a boy?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

4M. Have you ever hugged a girl?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

5F. Have you ever held hands with a boy?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

5M. Have you ever held hands with a girl?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

6F. Have you ever gone out with or gone a date with a boy? (E.g. going to a movie or party.)

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

6M. Have you ever gone out with or gone a date with a girl? (E.g. going to a movie or party.)

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

7F. Have you ever kissed a boy?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

7M. Have you ever kissed a girl?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

8F. Have you ever willingly let a boy put his hands under your clothes? Willingly means you gave permission or said it was OK. It also means you did it because you wanted to, and not because someone made you. If you don't understand this, please call the staff member for help.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

8M. Have you ever willingly let a girl put her hands under your clothes? Willingly means you gave permission or said it was OK. It also means you did it because you wanted to, and not because someone made you. If you don't understand this, please call the staff member for help.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

9F. Have you ever willingly put your hands under a boy's clothes? Remember, willingly means you gave permission or said it was OK. It also means you did it because you wanted to, and not because someone made you. If you don't understand this, please call the staff member for help.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

9M. Have you ever willingly put your hands under a girl's clothes? Remember, willingly means you gave permission or said it was OK. It also means you did it because you wanted to, and not because someone made you. If you don't understand this, please call the staff member for help.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

10F. Have you ever willingly undressed to show your private parts to a boy or had a boy undress to show you his private parts? Private parts are the parts of the body covered by underwear or a bra.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

10M. Have you ever willingly undressed to show your private parts to a girl, or had a girl undress to show you her private parts? Private parts are the parts of the body covered by underwear or a bra.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

11F. Have you ever willingly touched a boy's private parts, or ever let a boy touch your private parts? Remember, willingly means you gave permission or said it was OK. It also means you did it because you wanted to, and not because someone made you.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

11M. Have you ever willingly touched a girl's private parts, or ever let a girl touch your private parts? Remember, willingly means you gave permission or said it was OK. It also means you did it because you wanted to, and not because someone made you.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

Appendix E: Child Behavior Checklist: Delinquency Subscale (Youth Report)

1. I skip school.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

2. I get into a lot of fights.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

3. I destroy or mess up my own things or things belonging to others.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

4. I get in trouble at school.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

5. I get in trouble at home.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

6. I steal from others.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

7. I show off or clown around too much.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

8. I have been in trouble with the police.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

9. I don't really care how other people feel.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

10. I bully and threaten or am mean to others.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

11. I am stubborn.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

12. I have a hot temper or get mad easily.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

13. I scream or yell a lot.

- 1= Not at all true
- 2= A little true
- 3= Very true
- 7= Don't Know
- 8= Refuse to Answer

Appendix F: Inventory of Parental Involvement (Parent Report)

1. Since your child began schooling, have you usually known who your child's teachers are?

- 1= Never
- 2= I have known about less than half
- 3= I have known more than half, but not all
- 4= I have known almost all of them
- 7= Don't Know
- 8= Refuse to Answer

2. How often do you encourage your child to do their homework?

- 1= Never
- 2= Once or twice a week
- 3= About three times a week
- 4= Every day
- 7= Don't Know
- 8= Refuse to Answer

3. How often do you help your child with their homework?

- 1= Never
- 2= Once or twice a week
- 3= About three times a week
- 4= Every day
- 7= Don't Know
- 8= Refuse to Answer

4. How often do you know what your child's grades are?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

5. How often do you encourage your child to read?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

6. How often do you read or tell stories to your child?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

7. How often do you attend events at your child's school?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

8. How often do you spend time just talking with your child when they want to talk?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

9. How often do you spend time with your child doing things they like to do?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer
- 9= Not Applicable

10. How often do you work with your child on chores around the house?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

11. How often do you talk to your child about what's going on in their life?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

12. How often do you listen to your child's concerns?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

13. How often do you praise your child for being good or doing the right thing?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

14. How often do you tell your child that you love them?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

15. How often do you show physical affection to your child like hugging or kissing?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

16. How often do you attend events your child participates in like sports, school events or church events?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

17. How often are you involved in the daily or regular routine of taking care of your child's basic needs or activities like eating or getting ready for school?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

18. How often do you know where your child is when they are not with you?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

19. How often do you know who your child is with when they are not with you?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

20. How often do you know what your child does when they are with friends?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

21. How often do you buy things your child wants?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

22. How often do you give your child moral advice or guidance, like showing them the right way?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

23. How often do you talk to your child about their future?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

Appendix G: Inventory of Parental Involvement (Youth Report)

1. How often has your parent known who your teachers are?
 - 1= Never
 - 2= Your parent has known about less than half of them
 - 3= Your parent has known more than half, but not all of them
 - 4= Your parent has known all of them
 - 7= Don't Know
 - 8= Refuse to Answer

2. How often does your parent encourage you to do your homework?
 - 1= Never
 - 2= Once or twice a week
 - 3= About three times a week
 - 4= Every day or almost every day
 - 7= Don't Know
 - 8= Refuse to Answer

3. How often does your parent help you with your homework?
 - 1= Never
 - 2= Once or twice a week
 - 3= About three times a week
 - 4= Every day or almost every day
 - 7= Don't Know
 - 8= Refuse to Answer

4. How often does your parent know what your marks in school are?
 - 1= Never
 - 2= Sometimes
 - 3= Often
 - 7= Don't Know
 - 8= Refuse to Answer

5. How often does your parent encourage you to read?
 - 1= Never
 - 2= Sometimes
 - 3= Often
 - 7= Don't Know
 - 8= Refuse to Answer

6. How often does your parent read or tell stories to you?
- 1= Never
 - 2= Sometimes
 - 3= Often
 - 7= Don't Know
 - 8= Refuse to Answer
7. How often does your parent attend events at your school?
- 1= Never
 - 2= Sometimes
 - 3= Often
 - 7= Don't Know
 - 8= Refuse to Answer
8. How often does your parent spend time just talking with you when you want to talk?
- 1= Never
 - 2= Sometimes
 - 3= Often
 - 7= Don't Know
 - 8= Refuse to Answer
9. How often does your parent spend time with you doing things you like to do?
- 1= Never
 - 2= Sometimes
 - 3= Often
 - 7= Don't Know
 - 8= Refuse to Answer
10. How often does your parent work with you on chores around the house?
- 1= Never
 - 2= Sometimes
 - 3= Often
 - 7= Don't Know
 - 8= Refuse to Answer
11. How often does your parent talk to you about what's going on in your life?
- 1= Never
 - 2= Sometimes
 - 3= Often
 - 7= Don't Know
 - 8= Refuse to Answer

12. How often does your parent listen to your concerns?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

13. How often does your parent praise you for being good or doing the right thing?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

14. How often does your parent tell you that they love you?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

15. How often does your parent show physical affection to you, like hugging or kissing?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

16. How often does your parent attend events you participate in, like sports, school or church events?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

17. How often is your parent involved in the daily or regular routine of taking care of your basic needs or activities, like eating or getting ready for school?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

18. How often does your parent know where you are when you are not with them?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

19. How often does your parent know who you are with when you are not with them?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

20. How often does your parent know what you do when you are with friends?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

21. How often does your parent buy things that you want?

- 1 = Never
- 2 = Sometimes
- 3 = Often
- 7 = Don't Know
- 8 = Refuse to Answer

22. How often does your parent give you moral advice or guidance, like to show you the right way?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

23. How often does your parent talk to you about your future?

- 1= Never
- 2= Sometimes
- 3= Often
- 7= Don't Know
- 8= Refuse to Answer

Appendix H: Interaction Behavior Questionnaire (Parent Report)

1. Your child is easy to get along with.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

2. Your child is well behaved when you talk to them.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

3. Your child listens when you correct them.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

4. Most of the time, they like to talk to you.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

5. You and your child usually agree.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

6. Your child usually listens to what you tell them.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

7. You and your child often get angry at each other.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

8. Your child often doesn't do what you tell them to do.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

9. You get frustrated when you try to talk to your child.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

10. Your child often seems angry with you.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

11. Your child gets impatient when you talk.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

12. In general, you don't get along very well.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

13. You and your child have big arguments about little things.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

14. Your child doesn't listen to what you say.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

15. Your child thinks your opinions or ideas don't count.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

16. You and your child usually argue a lot about what they are allowed to do.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

17. Do you encourage your child to talk to you about their life?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

18. Do you think your child respects you?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

19. Do you allow your child to make some suggestions in your house?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

Appendix I: Interaction Behavior Questionnaire (Youth Report)

1. Your caregiver is easy to get along with.
0= No
1= Yes
7= Don't Know
8= Refuse to Answer

2. You enjoy the talks you and your caregiver have.
0= No
1= Yes
7= Don't Know
8= Refuse to Answer

3. Your caregiver is a good friend to you.
0= No
1= Yes
7= Don't Know
8= Refuse to Answer

4. Most of the time, they like to talk to you.
0= No
1= Yes
7= Don't Know
8= Refuse to Answer

5. You and your caregiver usually agree.
0= No
1= Yes
7= Don't Know
8= Refuse to Answer

6. Your caregiver usually listens to what you tell them.
0= No
1= Yes
7= Don't Know
8= Refuse to Answer

7. You and your caregiver often get angry at each other.
- 0= No
 - 1= Yes
 - 7= Don't Know
 - 8= Refuse to Answer
8. Your caregiver understands you.
- 0= No
 - 1= Yes
 - 7= Don't Know
 - 8= Refuse to Answer
9. You get frustrated when you try to talk to them.
- 0= No
 - 1= Yes
 - 7= Don't Know
 - 8= Refuse to Answer
10. Your caregiver often seems angry with you.
- 0= No
 - 1= Yes
 - 7= Don't Know
 - 8= Refuse to Answer
11. If you have a problem, your caregiver helps you out.
- 0= No
 - 1= Yes
 - 7= Don't Know
 - 8= Refuse to Answer
12. In general, you don't get along very well.
- 0= No
 - 1= Yes
 - 7= Don't Know
 - 8= Refuse to Answer
13. You and your caregiver have big arguments about little things.
- 0= No
 - 1= Yes
 - 7= Don't Know
 - 8= Refuse to Answer

14. Your caregiver screams a lot.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

15. Your caregiver puts you down or says bad things about you.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

16. You and your caregiver usually argue a lot about what you are allowed to do.

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

17. Does your caregiver encourage you to talk to you about your life?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

18. Do you think your caregiver respects you?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

19. Does your caregiver allow you to make some suggestions in the house?

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

Appendix J: Neighborhood Safety (Youth Report)

1. The equipment and buildings in the park or open area that is closest to where you live are well kept.

1= True
2= False
7= Don't Know
8= Refuse to Answer

2. The open area closest to where you live is safe during the day.

1= True
2= False
7= Don't Know
8= Refuse to Answer

3. The open area closest to where you live is safe at night.

1= True
2= False
7= Don't Know
8= Refuse to Answer

4. The street committee in my neighbourhood is respected.

1= True
2= False
7= Don't Know
8= Refuse to Answer
9= Not Applicable

5. The street committee in my neighbourhood provides protection.

1= True
2= False
7= Don't Know
8= Refuse to Answer
9= Not Applicable

6. There is a neighbourhood watch program in my neighbourhood.

1= True
2= False
7= Don't Know
8= Refuse to Answer

Appendix K: Neighborhood Cohesion (Youth Report)

1. When there is a problem around here, the neighbours get together to deal with it.

1 = True
2 = False
7 = Don't Know
8 = Refuse to Answer

2. This is a close-knit neighbourhood.

1 = True
2 = False
7 = Don't Know
8 = Refuse to Answer

3. When you get right down to it, no one in your neighbourhood cares much about what happens to you.

1 = True
2 = False
7 = Don't Know
8 = Refuse to Answer

4. There are adults in your neighbourhood that children can look up to.

1 = True
2 = False
7 = Don't Know
8 = Refuse to Answer

5. People around here are willing to help their neighbours.

1 = True
2 = False
7 = Don't Know
8 = Refuse to Answer

6. People in this neighbourhood generally don't get along with each other.

1 = True
2 = False
7 = Don't Know
8 = Refuse to Answer

7. You can count on adults in your neighbourhood to watch out that children are safe and don't get into trouble.

1= True
2= False
7= Don't Know
8= Refuse to Answer

8. If you had to borrow R50 in an emergency, you could borrow it from a neighbour.

1= True
2= False
7= Don't Know
8= Refuse to Answer

9. When you are away from home, you know that your neighbours will keep their eyes open for possible trouble at your place.

1= True
2= False
7= Don't Know
8= Refuse to Answer

10. In the neighbourhood people mostly go their own way.

1= True
2= False
7= Don't Know
8= Refuse to Answer

11. People in your neighbourhood share the same values.

1= True
2= False
7= Don't Know
8= Refuse to Answer

12. If you were sick, you could count on your neighbours to shop for groceries for you.

1= True
2= False
7= Don't Know
8= Refuse to Answer

13. People in your neighbourhood can be trusted.

- 1= True
- 2= False
- 7= Don't Know
- 8= Refuse to Answer

14. Parents in your neighbourhood know their children's friends.

- 1= True
- 2= False
- 7= Don't Know
- 8= Refuse to Answer

15. Adults in your neighbourhood know who the local children are.

- 1= True
- 2= False
- 7= Don't Know
- 8= Refuse to Answer

16. Parents in your neighbourhood generally know each other.

- 1= True
- 2= False
- 7= Don't Know
- 8= Refuse to Answer

17. How easy is it for you to pick out people who are outsiders or who obviously don't live in your neighbourhood?

- 1= Very easy
- 2= Sort of easy
- 3= Not easy
- 7= Don't Know
- 8= Refuse to Answer

Appendix L: Medical Outcomes Study – Social Support Survey (Parent Report)

People help each other out in a lot of different ways. Suppose you had some kind of problem (were upset about something, needed help with a practical problem, were broke, or needed some advice or guidance), how likely would (a) members of your family, and (b) your friends be to help you out in each of the specific ways listed below. We realize you may rarely need this kind of help, but if you did would family and friends help in the ways indicated? Try to base your answers on your past experience with these people. Use the scale below, and choose one number for family, and one for friends, in each row.

1A. Would give me a ride if I needed one. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

1B. Would give me a ride if I needed one. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

2A. Would look after my belongings (or my house or shack) for a while. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

2B. Would look after my belongings (or my house or shack) for a while. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

3A. Would loan me money for a taxi if I needed one. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

3B. Would loan me money for a taxi if I needed one. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

4A. Would help me out with a move or rebuilding my shack (or another big chore).

FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

4B. Would help me out with a move or rebuilding my shack (or another big chore).

FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

5A. Would give me money for food if I needed it. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

5B. Would give me money for food if I needed it. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

6A. Would walk with me for safety. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

6B. Would walk with me for safety. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

7A. Would help me out with some necessary purchase (something I needed to buy).
FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

7B. Would help me out with some necessary purchase (something I needed to buy).
FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

8A. Would lend me clothes or shoes if I needed them. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

8B. Would lend me clothes or shoes if I needed them. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

9A. Would loan me tools, equipment or appliances if I needed them. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

9B. Would loan me tools, equipment or appliances if I needed them. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

10A. Would show me how to do something I didn't know how to do. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

10B. Would show me how to do something I didn't know how to do. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

11A. Would bring me little presents of things I needed. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

11B. Would bring me little presents of things I needed. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

12A. Would talk to other people, to arrange something for me. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

12B. Would talk to other people, to arrange something for me. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

13A. Would loan me money and want to "forget about it. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

13B. Would loan me money and want to "forget about it. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

14A. Would offer me a place to stay for a while. FAMILY:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

14B. Would offer me a place to stay for a while. FRIENDS:

- 1= No one would do this
- 2= Someone might do this
- 3= Someone would probably do this
- 4= Someone would certainly do this
- 5= Most of them would certainly do this
- 7= Don't Know
- 8= Refuse to Answer

Appendix M: Coparenting (Parent Report)

Appendix M1: Presence of a Coparent.

You are the main caregiver for your child.

Is there someone who helps you raise your child and take care of them?
(This person will be referred to as your child's co-parent.)

- 0= No
- 1= Yes
- 7= Don't Know
- 8= Refuse to Answer

Appendix M2: Parenting Convergence Scale.

Tell me how often you and this person share the following caregiving responsibilities for your child.

How often do you and this co-parent...

1. Make important decisions together about your child's life?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

2. Discuss school or medical problems together about your child?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

3. Plan special events in your child's life together?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

4. Make day-to-day decisions together about your child's life?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

5. Talk with each other about your child's achievements and how well they are doing?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

6. How often do you and this co-parent talk about how your child acts?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

The following questions are about the relationship you have with your child's co-parent about how to raise your child.

7. When you and the co-parent talk about how to raise your child, how often do you and the co-parent fight?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

8. When your child complains about the co-parent, how often do you agree with your child?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

9. How often do you and the co-parent have different ideas about how to raise your child?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

10. When you need help with your child, how often do you go to the co-parent for help?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer

11. How often would you say that the co-parent helps you raising your child?

- 1= Never
- 2= A little
- 3= A lot
- 4= Always
- 7= Don't Know
- 8= Refuse to Answer