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Early Parenting: The Roles of Maltreatment, Trauma Symptoms, and Future Expectations

Richard Thompson, Ph.D.[*,a] and **Elizabeth C. Neilson, M.S.W, M.P.H.**[a,b]

[a]Richard H. Calica Center for Innovation in Children and Family Services; Juvenile Protective Association; 1707 N Halsted, Chicago, IL 60614. rthompson@juvenile.org

[b]Department of Psychology; University of Washington. Box 351525, Seattle, WA 98195. neilson.elizabeth@gmail.com

Abstract

The psychosocial determinants of early parenting are still not well understood. The current study used data on 115 girls in the Capella Project, who were followed longitudinally for the first 18 years of life. Potential predictors of early parenting assessed were child maltreatment, trauma symptoms, and girls' expectations for their socioeconomic outcomes. Cox regression survival analyses were conducted to predict time to the birth of first child. Significant unique predictors of early parenting included neglect, anxiety, low depression, and low expectations of going to college. Practice and research implications of these findings include the importance of neglect for risk of early parenting, the importance of ongoing trauma symptoms in youth, and the potentially protective influence of expectations of going to college.

Keywords

maltreatment; early parenting; neglect; future expectations; trauma

Despite a recent decline, teenagers in the United States become parents at rates roughly double those of other industrialized countries, and there are dramatic disparities within the United States in rates of early parenthood (Martin, Hamilton, Ventura, Osterman, Wilson, & Mathews, 2012; SmithBattle, 2012). Early parenting is associated with a variety of negative social outcomes, including school failure, poverty, child maltreatment, health problems, and possibly, mortality (Hardy, Astone, Brooks-Gunn, Shapiro, & Miller, 1998; Hardy, Lawlor, Black, Mishra, & Kuh, 2009; Woodward, Fergusson, & Horwood, 2001; Xie, Cairns, & Cairns, 2001).

The importance of early parenting may be especially salient in low SES families, where early parenting may be a mechanism by which intergenerational links for child

[*]Corresponding Author: 312-493-1071.

maltreatment, low education and generational poverty are expressed (Hardy et al., 1998; Meade, Kershaw, & Ickovics, 2008; Serbin & Karp, 2004; Whitehead, 2009; Woodward et al., 2001). The research linking early parenting to negative outcomes, however, has been criticized in both cultural and empirical terms (e.g., Breheny & Stephens, 2010; Geronimus, 2003). Indeed, an alternative view of the co-occurrence of early parenting and poverty is that in such contexts, early parenting is more adaptive (Geronimus, 2003). As well, it is important to acknowledge that, even if it is a barrier to social mobility, early parenting is only one of many such barriers (Breheny & Stephens, 2008; Geronimus, 2003; SmithBattle, 2012). Nevertheless, the bulk of the research suggests that early parenting is associated with at least some risk for negative psychosocial outcomes.

Here, we briefly review some of the research that is potentially relevant to understanding early parenting. A limited body of research has focused on early parenting as an outcome (e.g., Hofferth & Goldscheider, 2010; Meade et al. , 2008; Xie et al., 2001). Typically, this research defines and assesses “early parenting” as teen parenting (i.e., before the age of 20; e.g., Meade et al., 2008; Xie et al., 2001). However, as noted by Coyne and D’Onofrio (2012), much of this research has focused on demographic rather than psychosocial predictors. Because of the dearth of research predicting psychosocial predictors of early parenting, we include research that examines early initiation of sexual behavior (a necessary pre-condition for early parenting). Early initiation of sexual intercourse has been more frequently studied, both as outcome (e.g., Oberlander et al., 2011) and predictor of other outcomes (Manlove, Terry, Gitelson, Papillo, & Russell, 2000; Sandfort, Orr, Hirsch, & Santelli, 2007). Early sexual initiation and early parenting are strongly linked, but not identical (Hognas & Carlson, 2012); this research suggests factors that might predict early parenting specifically, but this proposition remains untested.

A consistently identified risk factor for early sexual initiation and for early parenting is lifetime history of child maltreatment in general and sexual abuse in particular. Child maltreatment in general dramatically increases the risk of early initiation of sexual behavior (Black et al., 2009; Noll & Shenk, 2013; Oberlander et al., 2011; Putnam, 2003). Much of the research has either treated maltreatment as an overall dichotomous variable (combining all forms) (e.g., Oberlander et al., 2011) or focused soley on sexual abuse as a risk factor for subsequent sexual behavior (e.g., Jones et al., 2013). Sexual abuse has also been linked to early sexual behavior as well as to risk for early parenting (Brown, Cohen, Chen, Smailes, & Johnson, 2004; Clum, Andrinopoulos, Muessing, Ellen, & the Adolescent Medicine Trials Network for HIV/AIDS Interventions, 2009; Mugavero et al. 2007; Senn, Carey, & Venable, 2008; Woodward et al., 2001).

Less frequently have other forms of maltreatment been examined as risk factors for sexual behavior (Jones et al., 2010; 2013); as noted, instead, neglect, physical abuse and sometimes psychological maltreatment have been integrated into a general maltreatment variable, as predictor of sexual behavior (Oberlander et al., 2011). However, it is important to extend this research to examine specific forms of maltreatment beyond sexual abuse. From the perspective of family systems theory (Minuchin, 1988), as summarized by Oberlander and colleagues (2011), what puts youth at risk for risky sexual behavior is the more general lack of strong relationships within the family, either as a consequence of maltreatment or as a

cause of both maltreatment and youth risk behavior. From this perspective, youth engage in risky sexual behavior as a means of coping with the distress caused by distant or harsh relationships with their parents and other family members. The implication of this perspective is that all forms of maltreatment would present some risk for early sexual intiation and for early parenting (Oberlander et al., 2011). In fact, this line of research has found that child maltreatment generally is a risk factor for early sexual initiation, and this effect is not specific to sexual abuse (Black et al., 2009; Oberlander et al., 2011). Physical abuse has also been linked to risk for early parenting (Woodward et al., 2001; Woodward, Fergusson, & Horwood, 2006). Other research has produced more mixed results in terms of other forms of maltreatment (Senn et al., 2008). It is important, however, to note that different forms of maltreatment often co-occur with each other and with a host of other risk factors, including family or community violence, bullying, and risky peers (e.g., Black et al., 2009; Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989; Kellogg & Menard, 2003; Lynch & Cicchetti, 1998; Merrick, Litrownik, Everson, & Cox, 2008; Van Brunschot & Brannigan, 2002). Indeed, there is some evidence that the risk associated with sexual abuse is at least partially due to the fact that it frequently co-occurs with other risk factors (Hahm, Lee, Ozonoff, & Van Wert, 2010). Early research noted that each different form of child maltreatment experienced independently increased the risk of early parenting (Hillis, Anda, Dube, Felitti, Marchbanks, & Marks, 2004).

If less research has focused on abuse other than sexual abuse, very little has focused on child neglect as a risk factor. Neglect is often as strong a predictor of psychosocial outcomes as other forms of child maltreatment (e.g., Kotch et al., 2008) and has also been linked to sexual risk behavior (Van Brunschot & Brannigan, 2002). Some research has found that neglect carries the strongest risk for negative sexual health outcomes (Haydon, Hussey, & Halpern, 2011), and it has been recently identified as linked to teen parenting (Noll & Shenk, 2013). This may be due to a lack of social support from the family, perceived worthlessness, or the interpersonal dependency that is associated with childhood neglect (Bornstein, Porcerelli, Huprich, & Markova, 2009). This may result in lack of assertiveness in delaying sexual intercourse and in negotiating safer sex (Melander & Tyler, 2010). From a broad social perspective, neglect may also indicate families with access to a paucity of resources (Geronimus, 2003).

Other potential predictors are also under-studied. For example, the focus in terms of psychological predictors of early parenting was on teenage aggression and/or conduct problems (Crittenden, Boris, Rice, Taylor, & Olds, 2009; Mersky & Reynolds, 2007; Woodward et al., 2001; Woodward et al., 2006; Xie et al., 2001), typically understood in terms of problem behavior theory (Jessor, 1991). From this perspective, some youth are at risk for a broad array of risk taking behavior in multiple domains, and this array of risk taking include sexual risk behavior (Coyne & D'Onofrio, 2012; Thompson et al., 2011). This would explain the links between conduct problems and other risk behaviors and risk for early parenting (Cavazos-Rehg et al., 2010; Coyne & D'Onofrio, 2012).

The problem behavior theory, however, does not take into account more recent research which has identified teen psychological distress as a risk factor for early parenting (Black et al., 2009). Psychological distress has frequently been proposed as a means by which

maltreatment influences risk for early intercourse and early parenting; such distress is associated with a variety of risk-taking behaviors (Littleton, Grills-Taquechel, Buck, Rosman & Dodd, 2013) and may diminish coping resources, decision-making, and future orientation (Oberlander et al., 2011). It is important, however, to specify the particular aspects of psychological distress that represent risk (Coyne, 1994). Psychological distress is often construed as depression (Coyne, 1994), but actual investigations of the link between depression and early parenting have failed to find an effect (e.g., Nilsen, Olsson, Karevold, O'Loughlin, McKenzie, & Patton, 2012). An alternative may be that psychological distress reflects trauma symptoms. Implicit in the family systems theory perspective summarized earlier is that trauma-related symptoms may be especially important, and that sexual risk behavior (and early parenting) may reflect one way of managing these symptoms (Oberlander et al., 2011). Indeed, treatments that focus on trauma-related symptoms have been found to reduce risk behavior more generally (Cohen, Mannarino, & Deblinger, 2006; Lang, Ford, & Fitzgerald, 2010). Other research has framed this link in terms of psychological dysregulation (Noll, Haralson, Butler, & Shenk, 2011), and suggests that the anger component of trauma symptoms, expressed as aggression or disinhibition (Xie et al., 2001) may be especially important. However, little research has focused on links between clusters of trauma symptoms and early parenting.

There has also been limited attention paid to cognitive processes underlying decision making around sexual risk behavior and early parenting. One area that has recently been identified as related to decisions around risk more generally is the future expectations that young people have (Hill, Ross, & Low, 1997; Skorikov & Vondracek, 2007). Negative expectations about the future have been linked to a variety of risk behaviors (Harris, Duncan, & Boisjoly, 2002; Valadez-Meltzer, Silber, Meltzer, & D'Angelo, 2005) including sexual risk behavior (Harris et al., 2002). In particular, youth who anticipate poor school outcomes and delinquent outcomes are also very likely to engage in early sexual activity (Sipsma, Ickovics, Lin & Kershaw, 2012). It remains unclear whether these negative expectations reflect self-fulfilling prophecies about negative outcomes, or awareness on the part of youth that they are, in fact, at elevated risk for negative outcomes (Thompson & Zuroff, 2010). For example, low socioeconomic status predicts both risk for early parenthood (Xie et al., 2001) and expectations of early parenthood; youth who by virtue of their low socioeconomic status, are at elevated risk for early parenthood may be aware of this risk (Thompson et al., 2012). Indeed, these expectations are likely reinforced by, and emerge in the context of, the strong intergenerational links in likelihood of early parenting and the socioeconomic contexts in which early parenting is most likely (Hardy et al., 1998; Hognas & Carlson, 2012; Meade et al., 2008).

Thus, it is reasonable to expect that maltreatment, trauma symptoms, and future expectations all predict early parenting. It was less clear how these three classes of variables would relate to early parenting in a multivariate context. The current analyses used a survival function with time varying predictors to predict time to parenthood in a sample of urban youth who had been identified in early childhood as either maltreated or at risk for maltreatment and tracked through adolescence. Analyses focused on the following hypotheses and questions, with the goal of identifying variables associated with risk of early parenting:

1. Maltreatment predicts risk of early parenting;
2. Trauma symptoms predict risk of early parenting;
3. Future expectations predict risk of early parenting;
4. Explore how these three classes of variables would be associated with early parenting in a multivariate context.

Methods

Study and Participants

The data presented here were collected as part of the Capella Project (Thompson, 2005), one urban site within a large longitudinal multi-site study of child maltreatment (LONGSCAN; Runyan et al., 1998). 245 caregiver-child dyads assessed when the child was 4 or 6 were followed longitudinally and comprised the base sample. They then participated in interviews keyed to child age every two years (i.e., at ages 4, 6, 8, 10, 12, 14, 16, and 18 years). In addition to these face-to-face interviews, annual phone contacts and brief interviews were conducted in years when a face-to-face interview did not occur. As well, annual contacts were made with the dyads after age 18 years, until the end of funding of the project (maximum age of youth contacted = 21 years). Of these dyads, 128 involved female children, and were the potential pool of subjects for these analyses.

Of the 128 initially included in the sample, 115 (89.8%) were retained at the age 12 years interview and included in these analyses. There were no demographic differences (race, family income, child gender) between the original recruitment sample and the current analysis sample. 65.2% of the sample self-identified as African American, 7.8% self-identified as White, and the remaining 27.0% were categorized as “other ethnicity/race” (predominantly self-identifying as “mixed race” or Hispanic). Other descriptive information on the subjects is presented in Table 1.

Assessment and Measures

The analyses presented here focused on assessments conducted from age 12 years to 18 years, with the exception of official reports of maltreatment. The assessment of each variable is described below. In each case, the measure was administered to the youth using an audio computer assisted self-administered interview (A-CASI). The exceptions were the assessment of official reports of maltreatment, and of early parenting. In the case of maltreatment, state Child Protective Services records were periodically reviewed for reports of alleged maltreatment involving the target child/youth. These reviews were conducted every two years, beginning at recruitment into the initial study. The assessment of early parenting is described herein.

Early Parenting

As part of each assessment, children were asked several questions (varying by assessment age) about sexual behavior and outcomes. Among these questions, were whether the child/youth had become a parent, and if so, the date of having become a parent. In addition to these biannual assessments, there were brief annual contact interviews with participating

youth and their parents, and during these interviews, the interviewer asked whether the youth had become a parent and, if so, the date that this had occurred. Importantly, these contact interviews continued after the last interview, until the termination of the study.

Demographic Variables

The biannual assessments included questions about demographic variables, including child gender, child's ethnic background, and family income. Family income was dichotomized around the $15,000 threshold because this was the threshold that included the largest proportion of the sample that was less than half at each age point (i.e., at age 12 years, more than half of the sample had family income lower than $20,000). Baseline caregiver reports of child gender and ethnic background were used as time-invariant variables. Reported family income at ages 12, 14, and 16 years were used in the survival analyses as time-varying covariates.

Official Report of Maltreatment

As noted earlier, administrative CPS records were periodically reviewed to identify reports of alleged maltreatment (Thompson, 2005). Identifying information for target youth and their parents were linked with CPS administrative data; this process was overseen by both study and CPS institutional review boards. These reports were abstracted and coded for type of maltreatment in four broad categories: physical abuse, sexual abuse, psychological maltreatment, and neglect (English & the LONGSCAN Investigators, 1997). The following definitions of each form of maltreatment were applied:

1. *Physical abuse* (any blows or injury to the body; violent handling, choking, burning, shaking, or nondescript injury);
2. *Sexual abuse* (any sexual exposure, exploitation, molestation, or penetration);
3. *Neglec*t (any failure to provide for a child's physical needs, or lack of adequate supervision to ensure a child's safety); and
4. *Psychological maltreatment* (any threats to psychological safety and security, lack of acceptance and threats to self-esteem, or failure to allow age-appropriate autonomy).

Interrater reliability for these chart reviews was very high (kappas for subtypes ranged from .73 to .88; Knight, Smith, Martin, Lewis, & the LONGSCAN Investigators, 2008). Given the lack of evidence of differentiation between substantiated and unsubstantiated reports in children's likelihood to experience mental health and emotional problems, risk behaviors, and other indices of psychosocial risk (Hussey et al., 2005; Kohl, Jonson-Reid, & Drake, 2009; Trocmé, Knoke, Fallon, & MacLaurin, 2009), we used CPS reported cases. For the current analyses, cumulative maltreatment through age 12 years for each type of maltreatment was examined as a dichotomous predictor. New reports of maltreatment after age 12 years were relatively rare in this sample, meaning that treating this variable as time-varying resulted in values at each time point that did not vary very much. (Exploratory analyses were conducted treating these variables as time-varying, with no substantive

difference; for simplicity, the analyses using maltreatment as time-invariant are reported here).

Trauma Symptoms

Trauma symptoms were assessed using the Trauma Symptom Checklist for Children (TSCC; Briere, 1996), administered at youth ages 12 and 16. The TSCC comprises six clinical scales: Anxiety, Depression, Post-traumatic Stress, Dissociation, Anger, and Sexual Concerns. It is a 57-item Likert scale self-report measure, with each item being a report of how often a given statement applied to the respondent, ranging from 0 (*never*) to 3 (*almost all the time*). To calculate each scale, the relevant items were summed (9 items for Anxiety, Depression and Anger, 10 items for Post-traumatic Stress, Dissociation and Sexual Concerns. It is correlated in expected ways with other measures of youth trauma symptoms (Briere, 1996; Lanktree & Briere, 1995). In this sample, reliability was high with internal consistency ranging from .81 to .87 for the age 12 years administration and .81 to .88 for the age 16 years administration.

Future Expectations

Three items assessing expectations about the future were used in the current analyses. These were three of the four items described by Thompson and Zuroff (2010). At ages 14 and 16 years, youth were asked the following questions: 1) ‘‘How likely is it that you will have to go on welfare at some point during your adult life?”; 2) ‘‘How likely is it that you will go to college?” and 3) ‘‘How likely is it that you will get the job you want?” These items correlate in anticipated ways with other psychosocial measures (Thompson & Zuroff, 2010), and with other items assessing future expectations (Thompson et al., 2012)

Analyses

Because the primary outcome of interest was whether a participant youth had become a parent, the outcome was defined as the date of birth of the first child. Survival analyses were conducted using Cox proportional hazards regression models with time-varying covariates. There were several advantages to this analytic approach. Because our data were censored (i.e., youth were followed for varying intervals after participation in the study), it was necessary to take this censoring into account analytically. The Cox model is used to estimate the probability that an outcome (in this case, birth of a child) occurs at a given point in time, taking censoring into account. Furthermore, Cox regression models allow the testing of multiple predictors simultaneously (allowing the construction of multivariate models of parenting status). Finally, the Cox regression models used allowed the use of time-varying covariates. Thus, rather than simply predict outcomes based on data collected at age 12 years (or some other time point), this approach allowed the use of data collected repeatedly on key predictors and covariates. A counting method of incorporating these time-varying covariates was used. Specifically, each time-varying covariate was treated as a constant within the specific age period assessed, but allowed to vary across different age periods (Allison, 1995).

As noted, some data were censored due to being followed for different intervals throughout the study. There was some missing data on the outcome because of youth being lost to

follow-up (or due to the early termination of the study). Specifically, 15 youth were lost to follow-up between age 14 and 16 years, and another 18 between age 16 and 18 years. However, because this censoring was addressed by the Cox regression analysis, and because there were no cases with missing data on predictors and data on outcome at a particular time, there was not a need to use other means to address missing data.

To establish the bivariate relationships between the hypothesized predictors and the outcomes, bivariate Cox regression analyses were conducted with each control variable and hypothesized predictor, with birth of a child as the outcome. Next, for those variables that approached significance in bivariate analyses, a multivariate Cox regression analysis was conducted. Because of the small sample size, and thus limited power to detect effects, variables were retained for the multivariate analysis if they were had p-values less than .10.

Results

Bivariate Correlations Among Study Variables

The bivariate correlations among the variables are presented in Table 2. As can be seen, there were modest but significant intercorrelations among the different forms of maltreatment and among the different future expectations. There were very strong and significant intercorrelations among the different subscales of the TSCC. As well, the correlations among the expectations and trauma symptoms over time were significant and quite high, particularly for the TSCC.

Rates and Bivariate Links with Time to Becoming a Parent

Over the course of the follow-up, 26 (22.6%) of the girls in the study became parents. The bivariate links with becoming a parent are presented in the first column of Table 3. As can be seen, several variables were correlated with risk for becoming a parent in the bivariate analyses: African American race, neglect, anxiety, post-traumatic stress symptoms, expectations of going on welfare, and low expectations of going to college. As well, depression symptoms and low expectations of getting a wanted job approached significance ($p < .10$) and were retained for the multivariate model.

Multivariate Model

The model including all variables significant or approaching significance in bivariate analyses is presented in the second column of Table 3. As can be seen, there was a strong and significant effect of neglect. As well, anxiety symptoms and low depression symptoms were significantly associated with early parenting. Finally, expectations of going on welfare predicted early parenting. In the multivariate model, there were no longer significant effects of race, post traumatic stress symptoms, expectations of going to college, or expectations of getting a wanted job.

Discussion

Summary of Evidence for Hypotheses

1. *Maltreatment predicts early parenting*. There was mixed evidence for this hypothesis. There were no significant effects of physical abuse, sexual abuse, or emotional maltreatment in any of the analyses. There was a significant effect of neglect, however.
2. *Trauma symptoms predict early parenting*. There was some evidence for this hypothesis. TSC-Anxiety and TSC-Posttraumatic Stress Symptoms were significantly linked with early parenting.
3. *Future expectations predict early parenting*. There was relatively strong evidence for this hypothesis. Both expectations of going on welfare and low expectations of going to college were significantly linked with early parenting in bivariate analyses, and the effect of getting a wanted job approached significance.
4. *Some variables remain significant unique predictors of early parenting*. The bivariate effects of neglect, TSC-Anxiety, and expectations of going on welfare all remained significantly associated with risk for early parenting in the multivariate context. As well, TSC-Depression appeared to be associated with *reduced* risk of early parenting in the multivariate context.

Implications

These data suggest that neglect has a strong and robust effect on risk for early parenting. This effect persists even after taking into account other forms of maltreatment, as well as youth functioning and cognition. This is consistent with and amplifies Noll and Shenk (2013), which found an effect of neglect, but controlled for fewer variables. On the other hand, there was no significant effect of other forms of maltreatment, which is surprising and inconsistent with other forms of research (e.g., Hillis et al., 2004; Woodward et al., 2001). A plausible explanation for the robust effect of neglect is that, neglect may uniquely lead to perceptions of lack of belonging, isolation, and being adrift without an experience of a coherent family system. Such experiences may prompt adolescents to seek intimacy and support through sexual relationships. Similarly, adolescents with experiences of having their needs neglected may struggle with communication around contraception preferences and be less assertive around safer sex (Melander & Tyler, 2010). Such a hypothesis is consistent with prior research linking neglect more strongly than other forms of maltreatment to other sexual health outcomes (Haydon et al., 2011). Other research has found links between physical and sexual abuse and early parenting (Clum et al., 2009; Woodward et al., 2006), and the failure to find such an effect here was surprising. It is possible that the forms of such abuse that were present in this study were not as severe as in other research. It is also possible that the use of official reports, rather than child or adult retrospective recall diminished such effects. Finally, it is important to acknowledge that there was limited power to detect such effects, as will be discussed later.

The psychological determinants of early parenting appear complex, with anxiety and, less robustly, post traumatic stress symptoms, associated with higher risk for early parenting.

The importance of anxiety is consistent with prior work on sexual risk behavior more generally (Cohen et al., 2006; Lang et al., 2010). It may be that trauma symptoms manifesting as anxiety may lead to less constructive ways of managing anxiety, and poorer risk decision making; in therapeutic terms this can be construed as catharsis or as sensation seeking (Cohen et al., 2006). Adolescents with previous or ongoing experiences of neglect may have even less access to supportive and adaptive social relationships within their families, and be more likely to utilize sexual activity as a means of coping with this anxiety. On the other hand, in multivariate analyses, there was an apparent protective effect for depressive symptoms. Although some this is somewhat counterintuitive, some previous research suggests that, especially for adolescent women, depressed mood is associated with lower rates of sexual activity (Hallfors, Waller, Bauer, Ford, Halpern, 2005).

This study is novel in examining the role of expectations on early parenting as an outcome. Prior research consistently links expectations to risk-taking behavior (Harris et al., 2002; Sipsma et al., 2012). In this sample, expectations of attending college were linked to low risk of early parenting, and expectations of going on welfare were linked to high risk of early parenting. The effect of expectations of going on welfare remained significant in the multivariate model, although it is important to acknowledge that these two expectations were quite strongly linked (and both were also strongly linked with expectations of getting a wanted job). All three are likely to be proxies for a general set of expectations about socioeconomic outcomes that tend to cluster together, both in reality and in the minds of the young people in question (Thompson et al., 2012). The general implication of this finding is that the belief that economic and social success are attainable and/or likely may focus more on school and related future oriented activities and less on romantic or intimate relationships. They may also perceive themselves as having more to “lose” by becoming parents early, relative to girls who have more pessimistic expectations of the future (Geronimus, 2003). It is important, in intervening to acknowledge that in many cases, these expectations are linked to likely outcomes (Thompson et al., 2012); interventions to reduce early parenting should address not only attitudes and expectations, but provide realistic alternatives to early parenting (Geronimus, 2003).

Caveats and Limitations

There are several important methodological considerations in interpreting the findings of the current study. One key limitation is that this sample was modest in size and this likely affected power. This provides an alternate explanation for the contrasting findings for neglect compared to other forms of maltreatment. The rates of neglect were much higher than the other forms of maltreatment, and this likely generated more power to find effects. The outcome assessed was early parenting, not pregnancy, abortion, or miscarriage. As such, it is likely that some youth in the “not parenting” group may have had pregnancies that were not included in these analyses.

As well, the current study did not examine the role of peer group factors that are likely an important determinant of early parenting. More broadly, this study focused primarily on internal determinants of behavior, rather than the social context. This focus does not mean that early parenting does not have a broader social context (Breheny & Stephens, 2008;

Cherrington & Breheny, 2005) of which poverty, community level violence, and intergenerational views of parenting play prominent roles.

The results of the current study could also be interpreted as grounded in the public discourse that presupposes early parenting is an unequivocally negative outcome. However early parenting is not necessarily a uniformly negative event (Geronimus, 2003) and occurs within a broader social context (Cherrington & Breheny, 2005). An alternative view is that early parenting is adaptive in the context of such a lack of resources; until the twentieth century, early parenting was far more normative than it now is. The degree to which low income families continue to conform to earlier norms may reflect nothing so much as the degree to which their circumstances have changed less than have those of more affluent families (Geronimus, 2003). The results of this study and the interpretation that the mechanisms contributing to early parenting are linked to expectations of college attainment and family dynamics of neglect suggest the importance of considering the broader social context as to what is normative and difficult to change within certain groups, and such a response should be not pathologized. However, it is also important to acknowledge that early parenting yields often negative consequences for youth who experience it. Early parenting presents a barrier to access to other resources, although certainly not the sole barrier.

As suggested earlier, it is possible to synthesize these very different perspectives on early parenting. If youth are provided with alternative and more adaptive coping strategies to respond to their social and economic contexts, early parenting may no longer be as necessary. There is a broader public responsibility for partnering with and empowering youth to make informed decisions about their sexual behavior and parenting status. That the current study identifies neglect as prominent in predicting early parenting also suggests that the effectiveness of sex education does not appear to be linked purely to the content of the information provided. Other research on the broader LONGSCAN sample has noted that by age 16, sexual intercourse is normative in this sample (Black et al., 2009). The experiences and psychological functioning that the adolescents bring to these instructions indicate the need for nonjudgmental sex education that is responsive to the felt experiences, perspectives, and needs of the adolescents. Such education would likely benefit from distancing itself from a shame-based model of preventing adolescent pregnancies through fear but rather focus on providing youth with alternative options for their future while giving them tools to make informed choices and increase a sense of ownership of the bodies and their sexual health. Such future work and interventions have been supported and called for by even the most radical of the critics of this line of research (Geronimus, 2003).

Conclusions

Future work would benefit from acknowledging the impact of trauma symptoms as a point of intervention, regarding symptom management and treatment, as well as prevention through intervention at the family-level by social services and CPS. However, many of the negative outcomes associated with early parenting have been argued to be due to low SES (Breheny & Stephens, 2010). Neglect could be the manifestation of family-level lack of access to resources. Expectations around social mobility may be realistic reflections of limited prospects. Such sex education interventions as described above would dovetail with

ongoing education reform seeking to place children as more empowered players in their education and future attainment. On an individual and community-level, improving access to quality education for youth who are already parents and at risk of becoming teen parents is especially likely to improve long-term outcomes for both the youth and their children (SmithBattle, 2012). A great deal of attention has been paid to the "choices" young women make around pregnancy and child-bearing, and not enough on the circumstances of these choices, and the options available to them. Although individual-level interventions and prevention can be effective, to have a widespread impact, it may be necessary to intervene on, or mitigate, broader underlying social conditions.

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Table 1

Descriptive Information on the sample (N = 115)

Variable	Age 12/Invariant	Age 14	Age 16
Gave birth	22.6% (26)	X	X
Demographic information			
Race: African American	65.2% (75)	X	X
White	27.0% (31)	X	X
Other	7.8% (9)	X	X
Family Income (under 15K)	41.7% (48)	39.1% (45)	36.5% (42)
Caregiver marital status (ever married)	51.3% (59)	51.3% (59)	57.4% (66)
Cumulative Maltreatment through Age 12			
Neglect	33.0% (38)	X	X
Physical abuse	7.8% (9)	X	X
Sexual abuse	10.4% (12)	X	X
Emotional abuse	8.7% (10)	X	X
Trauma Symptom Checklist- Children			
Anxiety	3.93 (3.43)	X	4.38 (3.61)
Depression	3.94 (3.48)	X	4.37 (3.73)
Anger	4.86 (4.97)	X	6.30 (5.53)
Post-traumatic stress	5.13 (4.89)	X	5.73 (5.23)
Dissociation	4.41 (4.38)	X	5.08 (4.39)
Sexual concerns	2.62 (3.35)	X	3.53 (3.58)
Future Expectations			
Welfare	X	2.11 (0.96)	2.19 (0.97)
College	X	4.71 (0.74)	4.43 (0.84)
Wanted Job	X	4.30 (0.78)	4.25 (0.82)

Note: HS = completed high school. X indicates data not collected on the given variable at the given time point, or irrelevant because time-invariant. Time invariant variables are indicated by grayscale background, and reported in the Age 12 column.

Table 2

Bivariate Corrrelations Among Main Study Variables (N = 412)

	2	3	4	5	6	7	8	9	10	11	12	13	Correlation w Age 16
1.Neglect	.28*	.18*	.22*	−.02	.06	−.05	−.02	−.03	−.07	.10	.07	−.01*	-
2.Physical Abuse	-	.25*	.47*	.12	.07	.15*	.12	.19*	.16*	.01	−.05	−.06	-
3.Sexual Abuse	-	-	.27*	.11	.08	.08	.11	.14*	.17*	.02	.07	.00	-
4.Emotional Abuse	-	-	-	.13	.07	.06	.12	.18*	.15*	−.11	.05	−.09	-
5.TSC Anxiety – 12	-	-	-	-	.78*	.63*	.83*	.79*	.55*	.16*	−.09	−.07	.66*
6.TSC Depression – 12	-	-	-	-	-	.67*	.77*	.75*	.50*	.24*	−.01	−.01	.71*
7.TSC Anger −12	-	-	-	-	-	-	.69*	.75*	.62*	.20*	.00	−.02	.66*
8.TSC PTSS −12	-	-	-	-	-	-	-	.81*	.59*	.14*	−.09	−.12	.69*
9.TSC Dissociation – 12	-	-	-	-	-	-	-	-	.62*	.17*	.02	−.06	.69*
10.TSC Sexual Concerns-12	-	-	-	-	-	-	-	-	-	.19*	.01	−.05	.76*
11.Expectations- Welfare −14	-	-	-	-	-	-	-	-	-	-	−.20*	−.29*	.52*
12.Expectations-College −14	-	-	-	-	-	-	-	-	-	-	-	.34*	.34*
13.Expectations- Wanted Job-14	-	-	-	-	-	-	-	-	-	-	-	-	.36*

Note:

* $p<.05$

Table 3

Links to becoming a parent using Time Varying Covariates Cox Regression

Variable Name	Bivariate OR (CI)	Multivariate OR (CI)
Child race (Ref: White)		
African American	**3.46 (1.03 – 11.65)**	1.68 (0.48 – 5.84)
Other	1.48 (0.24 – 8.98)	1.28 (0.33 – 5.05)
Family Income (under 15K)	1.80 (0.83 – 3.90)	-
CG marital status (ever married)	0.74 (0.34 – 1.61)	-
Neglect	**2.76 (1.21 – 5.98)**	**4.72 (1.07 – 20.94)**
Physical abuse	1.10 (0.60 – 3.58)	-
Sexual abuse	1.01 (0.31 – 3.12)	-
Emotional abuse	0.77 (0.38 – 2.98)	-
TSC Anxiety	**1.15 (1.06 – 1.26)**	**1.24 (1.04 – 1.48)**
TSC Depression	*1.10 (0.99 – 1.22)*	**0.82 (0.69 – 0.98)**
TSC Anger	1.06 (0.98 – 1.14)	-
TSC Post traumatic stress	**1.09 (1.02 – 1.17)**	1.05 (0.92 – 1.20)
TSC Dissociation	1.05 (0.96 – 1.15)	-
TSC Sexual concerns	1.06 (0.95 – 1.17)	-
Future Expect: Welfare	**1.64 (1.09 – 2.46)**	**1.57 (1.05 – 2.35)**
Future Expect: College	**0.65 (0.46 – 0.91)**	0.74 (0.48 – 1.14)
Future Expect: Wanted Job	*0.66 (0.41 – 1.06)*	1.09 (0.65 – 1.83)

Note: HS = completed high school. Boldface indicates results significant at $p < .05$. Italics indicate results significant at $p < .10$.

Gray scale indicates time-invariant variables.

For multivariate analyses, only variables that were significant at at least $p < .10$ were retained.