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Maltreatment history as persistent risk: An extension of Li and Godinet (2014)

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ABSTRACT

Using individual growth curves with mixed models, this study examined the influence of maltreatment on the trajectories of both internalizing and externalizing behavioral problems from early childhood (age 4) to late adolescence/emerging adulthood (age 16) in the LONGSCAN samples of children with early maltreatment exposure or early risk for maltreatment. Maltreatment reports for each child were used to create a time-varying predictor, which was assessed on an ongoing basis in the LONGSCAN study. Child/youth emotional and behavioral problems were measured at ages 4, 6, 8, 10, 12, 14, and 16 using the Child Behavior Checklist. Maltreatment allegations significantly predicted subsequent trajectories of both internalizing and externalizing problems. For both types of problems, the effect of repeated maltreatment was on the rate of change (the trajectory), and in the case of externalizing problems, this effect grew more pronounced through age 16. Although behavioral problems may not be seen in younger children who experience maltreatment, these children are at ongoing risk for such problems as they grow older, and this risk is either maintained through adolescence (in the case of internalizing problems) or increases in strength through adolescence (in the case of externalizing problems). Maltreatment history is a persistent risk factor for child outcomes through adolescence. Assessment for recent maltreatment, as well as for earlier history of maltreatment, in adolescent children would improve treatment and service plans for children with behavioral and emotional problems through adolescence.

1. Introduction

1.1. What is known about links between repeated maltreatment and emotional/behavioral health

As noted by Li and Godinet (2014) and by other researchers (Drake et al., 2011; Fluke, Yuan, Hedderson, & Curtis, 2003), maltreatment is not only a major social problem in terms of the number of children reported, but also many children experience repeat maltreatment and are re-reported during their childhood (English, Graham, Litrownik, Everson, & Bangdiwala, 2005; Fluke, Yuan, & Edwards, 1999; Needell et al., 2010). Further, research has shown that initial and repeated experiences of maltreatment are related to an increased likelihood of significant social, emotional, and behavioral problems across time (Appleyard, Egeland, & Sroufe, 2007; Bolger & Patterson, 2001; Graham et al., 2009; Proctor, Skriner, Roesch, & Litrownik, 2010; Thornberry, Ireland, & Smith, 2001). In keeping with social development and ecological models of maltreatment (Cicchetti & Valentino, 2006; Fraser, 2004) and trauma theory (Felitti et al., 1998; Perry, 2006; Perry, Pollard, Blakely, Baker, & Vigilante, 1995), chronic or multiple experiences of maltreatment during different developmental stages impede a child's ability to recover from traumatic experiences or "recoup" developmental harms associated with the consequences of repeated trauma experiences, including maltreatment (Bonanno & Mancini, 2014; Cicchetti & Toth, 1995; Stoddard, 2014).

Some research on the nature, characteristics, and outcomes of maltreatment and repeated maltreatment has been conducted (English, Graham, et al., 2005; Graham et al., 2009; Manly, Cicchetti, & Barnett, 1994), but our understanding of the longer-term impacts of maltreatment across different development stages—especially adolescence—is limited. Li and Godinet's (2014) article contributed to our understanding of the impact of repeat maltreatment by examining the relation between maltreatment from age 4 to age 12 (pre-adolescence) and internalizing and externalizing functioning. Their analysis, which used a time-varying measure of maltreatment to track trauma experiences across time and linked these experiences to outcomes at ages 4, 6, 8, 10, and 12, showed that repeated trauma exposures (maltreatment) predicted increases in both internalizing problems (inward-directed problems such as depression) and externalizing problems ("acting out" problems such as aggression) from early childhood to the

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emergence of adolescence. The more a child was exposed to repeated maltreatment, the more internalizing and externalizing problems were identified.

1.2. Need for extending research through adolescence

Although Li and Godinet (2014) contribute to our understanding of outcomes associated with chronic or repeated maltreatment on children's growth and development up to adolescence, questions still remain about the reach of these experiences throughout adolescence, especially because the level of reports of maltreatment for adolescence sharply declines across time (see Finkelhor, Shattuck, Turner, & Hamby, 2014). Other research on behavioral and/or emotional well-being trajectories as outcomes of maltreatment more often focuses on pre-adolescent children (e.g. Kim & Cicchetti, 2006; Woodruff & Lee, 2011)

Research on youth self-report suggests that youth experience more maltreatment than is captured by official reports (Everson et al., 2008). Ample evidence indicates that maltreatment is related to adolescent risk-taking and developmental outcomes (Oshri, Sutton, Clay-Warner, & Miller, 2015; Villodas et al., 2015; White, English, Thompson, & Roberts, 2016), yet little is known about the continuity of maltreatment across childhood and how continuity or discontinuity of maltreatment relates to well-being outcomes, in this case up to age 16. In addition, because of the under-reporting of child maltreatment to official agencies, it is likely that a dichotomy between single incident and "repeated" maltreatment may be somewhat arbitrary. In their analyses, Li and Godinet (2014) focused on the subset of the LONGSCAN sample with early childhood (i.e., before age 4) reports of maltreatment and used repeated or subsequent reports of maltreatment as predictors. It is likely, however, that similar reports would be obtained if all at-risk children were examined, which would include children with first reports of maltreatment later in childhood. Thus, there are several reasons to question whether the effects of maltreatment noted by Li and Godinet (2014) extend into adolescence.

1.3. Purpose of study

The purpose of this study is to extend the Li and Godinet (2014) analyses from age 12 to age 16 using the broader LONGSCAN sample to examine whether a linear relationship exists between maltreatment experiences and outcomes across childhood. In other words, does the relation between maltreatment and middle childhood holds through to late adolescence? The answer to this question has important implications for services to both pre-adolescents and older adolescents. As noted in child welfare data systems, the most frequent reason for adolescent entry into child welfare systems is behavior problems (U.S. Department of Health and Human Services, 2015); however, behavior problems are rarely linked to a child's maltreatment history in child welfare practice. Extending the research on the relationship between maltreatment and emotional/behavioral problems through late adolescence provides an opportunity not only to clarify some of these relationships but also to translate this knowledge into practice guidelines that include potential type and timing of specific interventions to disrupt the likelihood of negative trajectories. In this study, we examine whether the effects detected by Li and Godinet (2014) remain constant or vary across childhood into late adolescence. Specifically, the hypothesis tested was whether the effects of maltreatment extend into later adolescence; and whether such effects "level off" or disappear over time or worsen.

2. Methods

2.1. Sample and study

These analyses used archived data from the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN; Runyan et al., 1998). LONGSCAN was a consortium of five prospective studies of the predictors and outcomes of child maltreatment. The study followed an initial combined cohort of 1354 children from baseline (ages 4 or 6) to age 16. Data collection over the course of the study period was guided by shared assessment measures and protocols, and data entry and management systems. This data collection included assessments of internalizing and externalizing behavioral problems assessed at ages 4, 6, 8, 10, 12, 14, and 16, as well as periodic reviews of official reports of maltreatment. In contrast with Li and Godinet (2014), this study examined the effects of both initial and repeated maltreatment. Thus, the data analytic sample included all participants, as all had several Child Behavior Checklist (CBCL) data points, as well as data on maltreatment.

2.2. Measures

2.2.1. Behavioral problems

The outcome variables of this study are measured by the two broadband scales of the Child Behavior Checklist for ages 4–18 (CBCL/4–18; Achenbach, 1991), Internalizing Problems and Externalizing Problems. The CBCL is widely used and has established reliability and predictive validity (Achenbach, 1991). It is a caregiver report of a child's behavioral and emotional functioning. The Internalizing Problems scale includes the subscales Social Withdrawal, Somatic Complaints, and Anxiety/Depression. The Externalizing Problems includes the Delinquent Behavior and Aggressive Behavior subscales. Age-standardized *t*-scores, rather than the raw scores, were used in the statistical analyses (Hunter et al., 2003). For both scales, *t*-scores <60 are considered in the normal range, 60–63 represents borderline clinical scores, and scores >63 are in the clinical range (Achenbach, 1991).

In the LONGSCAN sample, biological mothers were usually, but not always, the respondents on the CBCL. Other primary caregiver respondents included grandmothers, other female relatives such as aunts or sisters, and foster or adoptive parents.

2.2.2. Child maltreatment

The primary predictor in these analyses was official reports of maltreatment. In these analyses, both substantiated and unsubstantiated reports were included in the definition of maltreatment. Prior research with the LONGSCAN sample has suggested that the distinction between substantiation and allegation may not be an important one in understanding child outcomes (English, Graham, et al., 2005; Godinet, Li, & Berg, 2014; Hussey et al., 2005); this issue has been raised with official reports of child maltreatment more generally (Bolger & Patterson, 2001; Drake & Pandey, 1996). All forms of child maltreatment reported to CPS were included in this dichotomy of child maltreatment: physical abuse, sexual abuse, neglect, and psychological maltreatment.

In these analyses, repeated maltreatment was treated as a time-varying covariate or predictor. In other words, its value could vary across the seven-time periods immediately preceding assessment of outcome variables: from birth to age 3.99, from age 4 to age 5.99, from age 6 to age 7.99, from age 8 to age 9.99, from age 10 to age 11.99, from age 12 to age 13.99, and from age 14 to age 15.99. These time periods for the presence of maltreatment were determined by comparing the date of the reported maltreatment to the child's date of birth. Each of these time periods was coded dichotomously to denote the presence or absence of at least one report of child maltreatment in this period. For example, for the period from age 6 to 7.99, if the child had any report of maltreatment (regardless of the number of reports), it was coded "1."

2.2.3. Control variables

Due to different recruitment strategies for the different LONGSCAN samples, study site was included as a time-invariant covariate, with the Southern site as the reference group (Godinet et al., 2014). Additionally, as recommended by Li and Godinet (2014), both gender and race were included as time-invariant covariates. Finally, baseline assessments of family income were included in the description of the sample.