



The blind men and the elephant: Identification of a latent maltreatment construct for youth in foster care[☆]

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ABSTRACT

Child maltreatment is a major public health concern due to its impact on developmental trajectories and consequences across mental and physical health outcomes. Operationalization of child maltreatment has been complicated, as research has used simple dichotomous counts to identification of latent class profiles. This study examines a latent measurement model assessed within foster youth inclusive of indicators of maltreatment chronicity and severity across four maltreatment types: physical, sexual, and psychological abuse, and neglect. Participants were 500 foster youth with a mean age of 12.99 years ($SD = 2.95$ years). Youth completed survey questions through a confidential audio computer-assisted self-interview program. A two-factor model with latent constructs of chronicity and severity of maltreatment revealed excellent fit across fit indices; however, the latent constructs were correlated 0.972. A one-factor model also demonstrated excellent model fit to the data ($\chi^2(16, n = 500) = 28.087, p = 0.031, RMSEA(0.012-0.062) = 0.039, TLI = 0.990, CFI = 0.994, SRMR = 0.025$) with a nonsignificant chi-square difference test comparing the one- and two-factor models. Invariance tests across age, gender, and placement type also were conducted with recommendations provided. Results suggest a single-factor latent model of maltreatment severity and chronicity can be attained. Thus, the maltreatment experiences reported by foster youth, though varied and complex, were captured in a model that may prove useful in later predictions of outcome behaviors. Appropriate identification of both the chronicity and severity of maltreatment inclusive of the range of maltreatment types remains a high priority for future research.

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1. Introduction

Child maltreatment is a risk factor associated with a range of negative outcomes across physical, social, and mental health domains (Cicchetti & Toth, 2005; Kaplan, Pelcovitz, & Labruna, 1999), and it remains a leading public health concern due to its financial and societal costs (Fang, Brown, Florence, & Mercy, 2012). A recent report released by the US Department of Health and Human Services (2016) revealed that approximately 3.5 million children are identified to child protective services each year as potential victims of maltreatment. Of these youth, approximately 20% were cases of substantiated child maltreatment and represent a population with high risk for adverse behavioral and emotional outcomes. The influence of exposure to maltreatment in childhood on later child development has been explored extensively in the literature, with effects related to various aspects of maltreatment, such as type (English, Upadhyaya et al., 2005), chronicity (English, Graham, Litrownik, Everson, & Bangdiwala, 2005), severity (Litrownik et al., 2005), or age of onset (Thornberry, Ireland, & Smith, 2001).

Despite the growth of research on child maltreatment, the construct of child maltreatment remains difficult to define given that each maltreatment experience is comprised of several dimensions (e.g., severity, perpetrator type, duration), and that there is a wide range of means of assessing these experiences and their dimensions (e.g., child self-report, caregiver report, case-file review). No consistent definition of maltreatment has been established across states for either legal purposes related to removal of a child from their home or for research purposes in establishing relations between maltreatment exposure and outcomes. Thus, maltreatment is a complicated construct that can be conceptualized in a variety of ways, creating the potential for divergent research findings based on how the construct is operationalized.

Consequently, little guidance is available for ways to account for multiple dimensions of maltreatment using more comprehensive measurement, and yet advances in statistical methodologies provide new alternatives for accounting for multidimensionality in constructs that have layered features, such as the type, severity, and chronicity of maltreatment. Our goal is to improve the dimensionality of maltreatment measurement. To this end, we examine a latent measurement model of foster youth self-report of maltreatment experiences, inclusive of indicators of maltreatment chronicity and severity (English, Upadhyaya et al., 2005) across four maltreatment types: physical abuse, sexual abuse, psychological abuse, and neglect, to determine if a multidimensional construct of maltreatment can be fit to the data. If so, later outcomes predictions might be facilitated by the use of a coherent and inclusive model, and the model could be used as an example for the creation of future maltreatment measurement models.

1.1. Measurement problems associated with dimensions of maltreatment

1.1.1. Type of maltreatment. Prior research has consistently indicated that the type of maltreatment experienced may have implications for outcomes (e.g., Perez & Widom, 1994; Spinazzola et al., 2014). However, research in which variables representing maltreatment type are used to predict outcomes has led to some discrepant findings (e.g., Moran, Vuchinich, & Hall, 2004; Taussig, 2002; Wall & Kohl, 2007). These discrepancies may be due in part to researchers' use of idiosyncratic strategies of determining which type of maltreatment a child has experienced, reducing the likelihood results will generalize. To illustrate the challenges in using maltreatment type to predict outcomes, the methods and findings from studies using maltreatment type to predict adolescent substance abuse and then academic outcomes are described.

Taussig (2002) explored risk behaviors for substance use longitudinally during adolescence following physical abuse, sexual abuse, and neglect in a sample of youth in foster care. In a multiple regression analysis, her research indicated that a history of neglect was a significant predictor of substance use in youth, while physical abuse and sexual abuse were not (maltreatment categories not mutually exclusive). Conversely, in a community sample, Moran et al. (2004) found that all types of maltreatment (physical, sexual, emotional, and physical + sexual, maltreatment categories mutually exclusive) were associated with increased odds for substance use behavior in youth when compared to non-abused peers. Associations were strongest in youth who experienced both physical and sexual abuse when compared to just singular forms of abuse. Finally, research by Wall and Kohl (2007) in a nationally-representative sample of adolescents revealed that odds for substance use were lower in youth experiencing neglect than youth experiencing physical abuse. Although maltreatment types were mutually exclusive in this study, when a child experienced multiple maltreatment types, they were categorized as sexually abused if sexual abuse was their most severe abuse experience, and so on. Thus, the role of maltreatment type in predicting substance abuse in adolescents remains largely unclear. Whether or not maltreatment type is a useful predictor of substance abuse seems to depend at least in part on other dimensions of maltreatment, such as severity (Wall & Kohl, 2007) or the potential co-occurrence of other maltreatment types (Taussig, 2002).

Similarly, in work on maltreatment and academic outcomes, specifying maltreatment by type also has important implications regarding outcomes. A community-based longitudinal study evaluated the impact of childhood physical and sexual abuse (non mutually exclusive categories) on later academic outcomes (e.g., years of education completed, graduation rates) and previous childhood school performance (e.g., teacher and parent report of academic performance; Tanaka, Georgiades, Boyle, & MacMillan, 2015). Physical abuse was associated with problematic childhood and later academic performances, whereas sexual abuse demonstrated no such relation (Tanaka et al., 2015). Perez and Widom (1994) found that compared to a matched control group, adults with a neglect history significantly differed on overall IQ and reading ability, with a physical abuse history significantly differed on overall IQ, and with a sexual abuse history did not differ on cognitive abilities. Lastly, another prospective, longitudinal study compared academic outcomes in a group of young adults with a neglect history to a matched control group (Nikulina, Widom, & Czaja, 2011). In a multiple regression analysis, it was determined that a

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