CAMBRIDGE
UNIVERSITY PRESS

Regular Article

The effects of maternal childhood victimization on depression, harsh parenting, and child externalizing problems over 10 years

Nicholas Morelli[1] , Kajung Hong[1], Theresa Nguyen[1], Dalia Tabibian[1], Rubi Alvarez-Rodriguez[1], Michaela Gusman[2] and Miguel Villodas[1]

[1]Department of Psychology, San Diego State University, San Diego, CA, USA and [2]Department of Psychology, Arizona State University, Tempe, AZ, USA

Abstract

Physical and sexual abuse have far-reaching mental and behavioral health consequences, extending across the lifespan and, in some cases, across generations. However, empirical work in this area is limited by cross-sectional study designs, short follow-up durations, and data analytic techniques that fail to capture the nuanced developmental processes through which caregivers and children impact one another. The present study investigated the cross-lagged and bidirectional pathways between maternal childhood victimization, depression, harsh parenting, and their children's externalizing symptoms over a 10-year period. Participants were 818 mother-child dyads prospectively identified as at-risk for family violence when children were four years old. Traditional cross-lagged panel modeling (CLPM) and random-intercept cross-lagged panel modeling (RI-CLPM) documented that maternal depression, harsh parenting, and child externalizing problems — all predicted by mothers' early abuse experiences — exacerbated one another across time. Discrepancies between the CLPM and RI-CLPM highlighted the advantages, disadvantages, and methodological implications of each approach. Findings highlight maternal psychopathology and parenting as key mechanisms in the intergenerational impact of abuse, emphasizing the importance of trauma-informed, parent-mediated interventions for breaking long-term cycles of family dysfunction. The present findings support separating out between-person, trait-like components when interpreting cross-lagged associations, as these may confound within-person effects.

Keywords: Harsh parenting; intergenerational maltreatment; child externalizing problems

(Received 13 August 2024; revised 6 April 2025; accepted 11 April 2025)

Introduction

Physical and sexual victimization in childhood can produce long-lasting impacts that extend into adulthood, impacting victims' long-term mental health, their ability to cope with new stressors, and — for a certain proportion of individuals — their parenting practices (Nelson et al., 2017; Yu et al., 2017). When this occurs, children may become recipients in the intergenerational transmission and impact of maltreatment. One plausible pathway through which this occurs is as follows: caregivers' experiences of physical and sexual victimization during childhood contribute to increased depressive symptoms in adulthood. Depressive symptoms then put caregivers at increased risk of employing harsh discipline tactics toward their children, which can result in the development of transdiagnostic externalizing behaviors in childhood, culminating in more entrenched behavioral problems in adolescence. Although a large body of work supports the various *individual* paths mentioned above, few studies have examined this entire intergenerational, cascading process in a single structural equation model while considering how children and their caregivers impact one another transactionally over time — a

process emphasized by developmental psychopathology frameworks (Cicchetti, 2016; Masten & Cicchetti, 2010) but not always tested empirically. The present study sought to better understand how victimization – and its developmental impact — is transmitted across generations, and how children's behavior problems, caregivers' depressive symptoms, and caregivers' harsh parenting tactics may reinforce one another transactionally across childhood, culminating in disruptive behavior problems in adolescence.

Intergenerational processes from caregiver childhood victimization to child outcomes

The psychological impact of physical and sexual victimization in childhood is immense. Childhood victimization, particularly when chronic, is capable of disrupting multiple different developmental domains and creating long-term maladaptive emotional and behavior responses that extend into parenthood and across generations (Su et al., 2022). Two highly plausible mediators in this intergenerational transmission include caregivers' mental health and their parenting behaviors. The piecewise paths that comprise this intergenerational process are well supported by meta-analytic evidence. Physical and sexual abuse in childhood are robust predictors of depressive symptoms in adulthood (Nelson et al., 2017); caregiver depression can cause reduced tolerance for stress, irritability, and emotion dysregulation, increasing caregivers' likelihood of using harsh and abusive discipline tactics toward their

children (Rueger et al., 2011); caregivers' harsh parenting, a chronic developmental stressor for children and a model for maladaptive behavior, is strongly associated with children's development of externalizing problems and more entrenched disruptive behavior problems in adolescence (Pinquart, 2017).

In the past few decades, studies have employed more sophisticated analytic approaches and rigorous methodologies to test this intergenerational process. Prior work has demonstrated that caregivers' levels of depression and stress might mediate the association between caregivers' childhood victimization history and their use of psychologically aggressive and physically assaultive parenting strategies across early and middle childhood (Morelli et al., 2021). Other studies have extended this work to include children's mental and behavioral health outcomes. Several studies have identified maternal depression or hostile mother-child interactions as mediators in the association between mothers' childhood victimization and their children's psychopathology (Collishaw et al., 2007; Morrel et al., 2003; Pereira et al., 2018). Similarly, Russotti et al. (2021) identified a multigenerational developmental cascade whereby maternal history of maltreatment predicted chronic maltreatment for offspring, which in turn predicted greater internalizing and externalizing symptoms in late childhood.

Transactional caregiver-child effects

Considering the findings above, the intergenerational effects of mothers' experiences of childhood victimization on their children's behavioral outcomes may be explained by a developmental cascade model. Conceptually, the developmental psychopathology framework theorizes that cascading sequences of effects can account for distal associations, including intergenerational associations. It is possible that these mediational processes are sequential, such that caregiver's experiences of childhood victimization have cascading effects on their mental health, which in turn compromises parenting, and ultimately increases children's risk for behavior problems in childhood and mood disorders in adolescence (Masten & Cicchetti, 2010). Yet, the developmental psychopathology framework simultaneously suggests a more complicated story. Although the cascading pathway above is entirely plausible, it is unlikely that children are purely recipients of their caregivers' influence. Equally important within the developmental psychopathology framework is the transactional nature of children's development (Cicchetti, 2016). From this perspective, children's outcomes are thought to be the result of countless reciprocal transactions with their environment. When testing developmental cascade models, it is crucial to account for how children and their caregivers may impact one another longitudinally and how these transactional influences might reciprocally exacerbate problems over time.

Evidence for problematic bidirectional cycles between parents and their children has been well supported over the past two decades (Pinquart, 2017). Particularly useful for demonstrating these effects has been the advent of the cross-lag panel model (CLPM). By accounting for autoregressive effects, CLPMs demonstrate whether two or more variables are associated with *increases* in one another over time, providing a strong inferential basis for uncovering reciprocal effects and causality. The developmental psychopathology literature has employed CLPMs extensively to explore how children and their proximal environments influence one another bidirectionally (Hentges et al., 2021; Whelan et al., 2015; Wiggins et al., 2015). Much of this work

focuses on transactional escalations in caregivers' harsh parenting (e.g., spanking) and child externalizing problems. This transactional effect has been shown in both general population samples (Gershoff et al., 2012) and low-income, racially/ethnically diverse samples (MacKenzie et al., 2015; Serbin et al., 2015). Comparable cross-lagged effects have also been identified with respect to caregiver depression and child externalizing problems (Shaw et al., 2016; Wiggins et al., 2014). Although studies have not always found hypothesized cross-lagged associations, particularly when time points have been spaced more than one year apart (MacKenzie et al., 2015; Serbin et al., 2015; Shaffer et al., 2013), CLPMs on the whole have been crucial for supporting the negative reciprocal interplay between caregivers and their children.

The random intercept cross-lag panel model: building upon the traditional CLPM

The traditional CLPM is not without its disadvantages. Hamaker et al. (2015) pointed out that if the stability of constructs is trait-like in nature, then the autoregressive associations of the traditional CLPM will fail to adequately account for the trait-like, between-person variance, potentially leading to specious conclusions regarding the presence and strength of causal influences. Consider harsh parenting, for example. Caregivers may employ harsher parenting during certain periods, such as when their children are exhibiting more challenging behaviors, and less harsh parenting during other periods, perhaps when they are experiencing less distress. This represents the variance in harsh parenting that exists *within* caregivers (i.e., the within-person effects). At the same time, there is undoubtedly a trait-like component to harsh parenting; some caregivers are harsher in their parenting style on average than other caregivers, even if they fluctuate from time-to-time. This represents the variance *between* caregivers (i.e., the between-person effects). One solution to addressing these two types of variances is the random intercept cross-lagged panel model (RI-CLPM). The RI-CLPM extends the traditional CLPM by separating out the stable, trait-like differences between individuals. What is left over is the within-person variance. In this way, the cross-lagged relations in a RI-CLPM represent deviations from an individual's average or expected level of that construct from one time point to another. Whether this within-person effect provides *better* interpretability for causal hypotheses compared to the traditional CLPM has been debated (Lüdtke & Robitzsch, 2021). Nevertheless, applications of the RI-CLPM within the parent-child literature have expanded rapidly.

With very little exception (Schütte et al., 2022), RI-CLPM studies consistently demonstrate that harsh, aggressive, or psychologically controlling parenting is associated with child externalizing problems *at the between-person level* (Kullberg et al., 2023; Pritsker, 2021; Robillard et al., 2022; Speyer et al., 2022; Zhang et al., 2020). This provides strong evidence for an underlying trait-level association between caregivers' parenting and children's behavior problems, and further justifies separating out this between-person variance before interpreting longitudinal cross-lagged effects. Evidence for within-person cross-lagged effects has been mixed. A handful of studies provide support for a negative transactional cycle at the within-person level, where increases in harsh parenting predict increases in child externalizing problems (Speyer et al., 2022); or the opposite effect, where child externalizing problems exacerbate one another longitudinally through harsh parenting (Schütte et al., 2022). Some RI-CLPM studies illustrate mostly unidirectional parent-child effects.

Robillard et al. (2022) found that increases in harsh parenting were associated with increases in adolescents' rule-breaking behavior but not vice versa (i.e., parent-to-child effect), whereas Zhang et al. (2020) found that child externalizing problems were more consistently associated with subsequent harsh parenting (i.e., child-to-parent effect). In other studies, between-person effects were found but within-person cross-lagged associations were largely absent (Kullberg et al., 2023; Pritsker, 2021). It is worth noting that Kullberg et al. (2023) collected data at child age 9, 12, and 16 years, suggesting that within-person associations may not be detectable across intervals of more than 2–3 years; all of the above studies used time intervals of two years or shorter.

Only two studies to our knowledge have employed a RI-CLPM to investigate reciprocal associations between caregiver depression and child externalizing problems. Both recruited majority-White, middle-upper-class families, and both collected several waves of data: six waves spanning child ages 13–18 years, and eight waves spanning 2–15 years, respectively (Schulz et al., 2021; Yan et al., 2021). In both studies, significant associations between mothers' depressive symptoms and their children's externalizing problems were found at the between-person level but were largely absent at the within-person level.

Gaps in the literature and the present study

In summary, current evidence suggests that (a) the impact of childhood victimization is capable of transmitting across generations, impacting children's behavior problems (Su et al., 2022) and (b) children and their caregivers are likely to impact one another transactionally across childhood and into adolescence (Pinquart, 2017). Still, several prominent gaps in the literature remain. First, much of the intergenerational literature is limited by a relatively small number of time points, focusing on a narrow range of child development or on a single mediator. Few studies have tested more complete, cascading intergenerational processes culminating in children's behavior problems, and those that have did not account for possible transactional associations between caregivers and their children. Second, applications of the RI-CLPM for exploring parent-child transactional effects have only recently begun to appear in the literature, and the findings remain quite mixed. Finally, much of the relevant research in this area has been limited to middle-to-upper class, majority White, or nationally representative families. It is crucial to elucidate problematic intergenerational and transactional family processes within families who are most likely to be impacted by victimization and child behavior problems.

The present study sought to fill these gaps by examining a cascading, intergenerational pathway from caregivers' childhood victimization to their children's behavior problems through caregivers' depressive symptoms and harsh parenting within a socioeconomically disadvantaged, diverse sample of caregiver-child dyads at risk for family violence. Additionally, transactional, cross-lagged associations between caregivers' depressive symptoms, harsh parenting, and child behavior problems were tested across child ages 4, 6, 8, and 12. Age 14 disruptive behavior problems were included in the model as a final, distal outcome, representing the culmination of dimensional externalizing problems over the 10 preceding years. Cross-lagged associations are presented using both a traditional CLPM and a RI-CLPM, given that each approach offers unique advantages and disadvantages (Hamaker et al., 2015; Lüdtke & Robitzsch, 2021). We hypothesized the following:

1. Mothers' childhood experiences of victimization would be associated with baseline (i.e., child age 4) and trait levels of their depressive symptoms, harsh parenting, and their children's externalizing problems.
2. A cascading, serial mediation process would be identified from maternal childhood victimization to increased maternal depressive symptoms at child age 4, leading to increased harsh parenting at child age 6, leading to increased child externalizing problems at age 8.
3. Caregivers' depressive symptoms, harsh parenting, and children's externalizing problems would be associated with increases in levels of one another across child ages 4, 6, 8, and 12, as evidenced by significant and positive cross-lagged associations.
4. Caregivers' depressive symptoms, harsh parenting, and children's externalizing problems at age 12 (and their trait-like components) would be associated with more DSM-5 disruptive behavior problems at age 14 years.

Method

Sample and procedures

The present study utilized data from the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN). LONGSCAN is a multi-site consortium of ongoing prospective studies investigating the causes and consequences of child abuse and neglect (see Runyan et al., [1998] for a more detailed description). The initial sample included 1,354 child-caregiver dyads and was selected based on prior Child Protective Services (CPS) involvement (Northwest, Midwest, and Southwest sites), identification as high risk for child maltreatment at birth based on a state public health tracking system (South), and involvement with health clinics serving low-income mothers and their children (East). Participants were identified before children were 4 years old. Caregivers and their children were interviewed separately in person biannually by one or two trained interviewers using laptop computers between child ages 4 and 18 years. Interviews lasted between one and three hours and caregivers were compensated with cash for their participation in each interview and children were compensated with gift cards. The time between most interviews was on average two years, except between the age 8 and age 12 interviews, which was four years. All sites utilized uniform assessment measures, data collection, data entry, and data cleaning protocols. Additionally, each of the LONGSCAN sites systematically reviewed and coded narrative CPS records of maltreatment using a modification of the Maltreatment Classification System (MMCS; Barnett et al., 1993; English & Investigators, 1997). Coders at each site were trained to use the MMCS by experienced coders until they reached 90% agreement with a "gold standard" example. To further ensure reliable coding, coders at all five sites coded a subsample ($n = 109$) of the CPS narratives that represented cases from each site.

Participants for the present study were ($N = 818$) biological mother-child dyads who participated in LONGSCAN and provided data at least one study visit between child ages 4 and 14 years. The sample was limited to biological mother-child dyads because only biological mothers were administered the Mother's History of Loss and Harm questionnaire (see below). Mothers in the sample identified primarily as Black (48%), followed by White (26.3%), multiracial/"other" (20.9%), and Hispanic/Latino (4.8%). Nearly one-half (46.5%) did not have high school diploma and the majority (82.6%) reported incomes that fell below the federal poverty limit at study baseline.

Measures

Family demographics

Mothers' age, high school completion status, race/ethnicity, and child sex were assessed at the child age 4 interview. Mothers' marital status (1 = married, 0 = not married), family income, and number of household dependents were assessed at the age 4, 6, 8, and 12 interviews. Annual income and number of dependents were compared to the federal poverty guidelines during the years the data were collected to determine if family annual incomes fell below the poverty line.

Maternal childhood victimization

During the child's age 4 interviews, maternal childhood history of physical and sexual victimization was assessed using the LONGSCAN-developed Mother's History of Loss and Harm questionnaire (Hunter & Everson, 1991). Items were designed based on the methodology of Wyatt and Peters (1986) to assess the experience of specific acts without describing the acts as "abusive" and conforming to the behaviorally based definitions of physical and sexual abuse. Maternal childhood physical victimization was measured using two items in which respondents were specifically asked to exclude spanking by hand (e.g., "When you were a child or teenager, were you ever physically hurt by a parent or someone else... like hit, slapped, beaten, shaken, burned, or anything like that?"). Maternal childhood sexual victimization was measured using six items and defined perpetrators as being at least three years older than the victim (e.g. "Before the age of 13, did anyone older than you ever try to or succeed in touching your breasts or genitals?"). Responses were treated dichotomously (1= 'yes', 0= 'no') based on whether the participant had any experience of victimization prior to age 18, and a summed total of endorsed items was created. Psychometric data on this measure are not available; however, it demonstrated good reliability in the current sample (α = .82) and has been used by many previous studies to assess caregivers' history of physical and sexual victimization (Claridge et al., 2015; Gilbert et al., 1997; Hunter et al., 1994; Morelli et al., 2021; Wamser-Nanney & Campbell, 2022).

Maternal depressive symptoms

Maternal depressive symptoms were self-reported using 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) at the age 4, 6, and 12 interview; at the age 8 interview, caregivers completed the Brief Symptom Inventory (BSI; Derogatis, 1993). The CES-D measures the presence of past-week depressive symptoms on a 4-point scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time). Summed scores indicate overall severity of depressive symptoms. The CES-D demonstrated excellent reliability in the present sample (αs > .90), and previous studies have supported its validity (Radloff, 1977). The BSI is a 53-item measure with nine symptom scales, including a depression scale. Items from this scale assess caregiver's experiences of depressive symptoms (e.g., "have you felt lonely?", "have you lost interest in things") using the same past-week time frame as the CES-D. Differences between the CES-D and the BSI depression subscale include their length (20 items vs. 6 items, respectively) and the scaling (5-point scale vs. 4-point scale, respectively). The BSI demonstrated good reliability in the current sample (α = .81). Both scales measure the same underlying construct and have significant overlap regarding item content; both have been validated in low-income, racially/ethnically diverse populations (Henry et al., 2018; Prelow et al., 2005). Raw scores

from the CES-D and the BSI were converted to z-scores to provide a standardized measure of maternal depression across time points.

Mothers' harsh parenting

The current study used the Conflict Tactics Scale: Parent to Child (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan et al., 1998) to assess mothers' use of harsh parenting practices within the past 12 months at children's ages 4, 6, 8, and 12 years. The CTSPC consists of three subscales: Nonviolent Discipline (3 items), Psychological Aggression (7 items), and Physical Assault (6 items), which is subdivided into "minor," "severe," and "very severe" assault. The present study used items from the Psychological Aggression and Physical Assault subscales. In consultation with the scale developers, LONGSCAN investigators adapted the scale so that items were measured dichotomously (0 = did not occur, 1 = occurred at least once) to represent their prevalence before being summed into their respective scales, as recommended by Straus and Hamby (1997). Although these scales have demonstrated good validity, due to the relatively low frequency of each behavior, they tend to show weak evidence of internal consistency (.62 for psychological aggression and .42 for minor physical assault; Straus et al., 1998). Importantly, the LONGSCAN study used an adapted version of the CTSPC at the age 4 and 6 interviews that omitted severe and very severe assault items (e.g., hit with closed fist, choked, threatened with knife/gun, beat up) due to concerns about CPS reporting. Additionally, item wording differed slightly across interview periods (e.g., "shouted, yelled, or screamed at him/her" at age 8 vs. "yelled or screamed at him/her" at age 12). To account for these discrepancies, we only included CTSPC items that were nearly identical in wording and meaning across all time points and created latent variables representing the degree of "harsh parenting" at a given time point rather than an exact count of the number of harsh parenting acts. The final latent variables were comprised of two count scores: psychological aggression (sum of three items) and physical aggression (sum of four items). The three psychological aggression items were: (1) [yell/scream/shout], (2) [insult/swear/curse/call names], and (3) threaten to [spank/hit/throw something]. The four physical aggression items were: (1) shake, (2) [push/grab/shove], (3) [spank/hit on bottom with object] and (4) slap [on hand, arm, leg, face, head, or ears]. Because blatantly abusive parenting practices were omitted at the age 4 and 6 time points, these items were not included at any time point; the resultant latent variables represented harsh – but not abusive – parenting. As expected, internal consistency for these items in the current sample was weak (psychological aggression αs = .48 – .61; physical aggression αs = .43 – .64) due to the relatively low frequency of each behavior.

Child externalizing problems

Mothers reported on their children's dimensional behavior problems using the Child Behavior Checklist (Achenbach & Rescorla, 2001) at the age 4, 6, 8, and 12 interviews. The CBCL is a widely used, 113-item measure that assesses the frequency (0 = not true, 1 = sometimes true, 2 = often true) of various child behaviors during the previous six months, with greater scores indicating more severe symptoms. The current study used children's scores from the Externalizing Problems subscale as a primary outcome. This scale is comprised of two syndrome scales, Aggressive Behavior and Delinquent Behavior (20 and 13 items, respectively). Children's internalizing problems were also assessed via the CBCL at study baseline (i.e., age 4 years) to be used as a covariate. The CBCL has well-established psychometric properties, with strong

reliability and validity (Achenbach et al., 2003). In the current sample, internal consistency for the Externalizing Problems scale ranged from acceptable to excellent (αs = .72 – .93) across time points.

Child disruptive behavior disorder problems

Children's disruptive behavior problems were assessed using the NIMH Diagnostic Interview Schedule for Children Version IV (DISC-IV; Shaffer et al., 2000), administered to both mothers and children at the age 14 interview. The DISC-IV is a well-validated and reliable structured clinical interview designed to assess child and adolescent DSM-IV psychiatric disorders (Derks et al., 2006; Shaffer et al., 1996, 2000). The interview contains a series of initial broad stem questions which, if endorsed, are followed up with contingent questions, which are used to determine if the child's symptoms meet diagnostic criteria. Trained interviewers administered the DISC-IV to both caregivers and children using laptop computers, including modules for two modules for Conduct Disorder (CD) and Oppositional Defiant Disorder (ODD). Symptoms for each disorder were tabulated using a sensitivity approach, such that symptoms were counted if endorsed by either caregivers or children. A final count variable was created to represent total caregiver- or child-reported disruptive behavior problems at child age 14, which represented the total combined number of children's CD and ODD symptoms.

Data analysis

Sample descriptive statistics, missing data patterns, and path analyses were calculated using a structural equation modeling (SEM) framework in M*plus* version 8.1.5 (Muthén & Muthén, 2017). Bivariate correlations among all variables were computed to identify covariates and confirm hypothesized relationships specified in the path model. Two structural equation models — a CLPM and a RI-CLPM — were used to analyze temporal directional associations between mothers' depressive symptoms and harsh parenting, and children's externalizing problems across children's age 4, 6, 8, and 12. Maternal childhood victimization, assessed at child age 4, was included as the primary predictor variable in both models; in the CLPM, maternal childhood victimization was included as a predictor of baseline levels of depressive symptoms, harsh parenting, and children's externalizing problems; in the RI-CLPM, maternal childhood victimization, which is time-invariant, predicted trait levels of depressive symptoms, harsh parenting, and children's externalizing problems. In both models, children's disruptive behavior problems (i.e., a sum of CD and ODD symptoms) at age 14 was included as a final, distal outcome, predicted by mothers' depressive symptoms, harsh parenting, and children's externalizing problems at child age 12. Because maternal depression was assessed using a different scale at the age 8 interview (i.e., BSI Depression subscale) than at all other time points (i.e., CES-D), all depression scores were standardized using z-scores prior to inclusion in the models. This conversion was performed in SPSS, which forms z-scores by subtracting the mean from each score and dividing by the standard deviation.

M*plus* provides several indicators of overall model fit, including 1) the Comparative Fit Index (CFI; Bentler, 1990); 2) the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973); and 3) Root Mean Square Error of Approximation (RMSEA; Steiger, 1990). Based on recommendations (Hu & Bentler, 1999), values greater than .95 and .90 were used to indicate excellent and acceptable model fit, respectively, for both the CFI and TLI, and values less

than .05 were used to indicate acceptable fit for the RMSEA. The fit of individual paths were determined based on their statistical significance. Mediation paths were identified by calculating indirect effects based on the product of the unstandardized path coefficients between the predictor and mediator variables (path *a*) and the mediator and outcome variables (path b; MacKinnon et al., 2002). The significance of indirect effects were determined using bias-corrected 95% confidence intervals (CIs) based on 1000 bootstrapped samples (Preacher & Hayes, 2008). SEM analyses controlled for mothers' marital status, education level, poverty status, and race/ethnicity, as well as child's sex and internalizing problems at study baseline (i.e., age 4). Given the potential for marital and poverty status to change over the duration of the study, these variables were included as time-varying covariates at the child age 4, 6, 8, and 12 time points.

Given the complexity of both models, and to maximize model parsimony, all cross-lagged and autoregressive paths were initially constrained to equivalence across time points, as has been recommended previously (Grimm et al., 2021). Path constraints were iteratively removed one by one, guided by model modification indices (i.e., Lagrange Multiplier test) and the χ^2 difference ($\Delta\chi^2$) test, to determine whether freeing each path resulted in significantly better model fit. Parameter constraints were iteratively removed until the revised model fit did not significantly differ from the previous (more constrained) model (i.e., $\Delta\chi^2$ p > .05). See supplemental material (Figure S1) for conceptual models depicting both hypothesized models.

Results

Missing data

Caregiver-child dyads were included if caregivers (1) identified as biological mothers at study baseline and (2) were interviewed during at least one time point across the child age 4, 6, 8, 12, and 14 interviews. Of the 1,354 original LONGSCAN participants, 819 had caregivers who identified as biological mothers at study baseline. Only one caregiver was not interviewed during any of the included time points, yielding a final sample size of 818. Of these participants, 420 (51.3%) were present for all five interviews, 192 (23.5%) missed one interview, 115 (14.1%) missed two interviews 58 (7.1%) missed three interviews, and 33 (4.0%) missed four interviews. To assess the nature of missing data, Little's MCAR test was conducted. Results indicated that the data were not missing completely at random (χ^2 = 5311.66, df = 5,001, p = .001). Those with missing data did not differ from those with complete data on any of the covariates, including child sex, $\chi^2(1)$ = 0.85 p > .05, child race/ethnicity, $\chi^2(6)$ = 7.50 p > .05, caregiver race/ethnicity, $\chi^2(6)$ = 12.05 p > .05, caregiver marital status at any time point, $\chi^2(1)$ = 0.02 – 1.05, ps > .05, household poverty status at any time point, $\chi^2(1)$ = 0.31 – 0.78, ps > .05, caregiver high school graduation status, $\chi^2(1)$ = 0.09 p > .05, or child internalizing problems at age 4 years, t_{827} = 0.24, p > .05. Those with missing data also did not differ from those with complete data on any primary predictor or outcome variable of interest, including number of maternal childhood victimization exposures, t_{702} = 0.74, p > .05, caregiver depressive symptoms at any time point, $t_{557-794}$ = 0.02 – 1.37, ps > .05, caregiver psychological or physical aggression score at any time point, $t_{560-710}$ = 0.12 – 1.42, ps > .05, child externalizing problems at any time point, $t_{600-827}$ = 0.30 – 1.84, ps > .05, or disruptive behavior problems at age 14, t_{727} = 1.34, p > .05. Whether or not children were recruited due to the presence of a maltreatment report prior to age 4 (see

"Sensitivity Analyses" further below) was not related to missingness, $\chi^2(1) = 0.06$ $p > .05$. As a result, these data meet the definition of Missing at Random (Enders, 2010). Missing data were handled using Full Information Maximum Likelihood, which allows for unbiased estimation under the assumption that data are missing at random (Enders, 2010).

Bivariate associations and descriptive statistics

Descriptive statistics are presented in Table 1. Bivariate correlations between all study variables are presented in the supplementary material (Table S1). Primary variables of interest were generally significantly and modestly-to-moderately associated with one another, with the exception of maternal childhood victimization with baseline physical aggression ($r = .03$, $p > .05$). Additionally, children's age 14 disruptive behavior problems, which was significantly correlated with children's baseline child externalizing problems ($r = .20$, $p < .01$) was not correlated with caregiver depression, physical aggression, or psychological aggression at baseline. Skewness and kurtosis were within the acceptable range for all study variables ($<|3|$ for skewness, $<|10|$ for kurtosis (Kline, 2023). No values were greater than two standard deviations above the mean. Approximately one-half (50.6%) of the mothers in the sample reported a history of victimization as children. Children's externalizing problems in the present sample were slightly elevated compared to normative samples (i.e., T-scores >54 across time points). Similarly, children had an average of 3.51 CD symptoms and 4.04 ODD symptoms at age 14, which is elevated relative to general population samples (Munkvold et al., 2011; Murray & Farrington, 2010).

Structural equation model for the traditional CLPM

The SEM for the initial CLPM, which constrained cross-lagged and auto-regressive paths to equivalence across time points, demonstrated poorer-than-acceptable model fit, $\chi^2_{338} = 838.36$, $p < .001$, CFI = 0.93, TLI = 0.91, RMSEA = 0.043, 90% CI [0.04, 0.05]. Guided by modification indices, parameter constraints were iteratively removed until the revised model fit did not significantly differ from the previous (more constrained) model (i.e., $\Delta\chi^2$ $p > .05$). First, constraints involving covariates were removed (e.g., autoregressive covariate paths constrained to equivalence across times points). Then, constraints involving primary panel variables were removed. In total, three path constraints involving primary panel variables were removed, all of which were autoregressive: (1) the path from age 8 to age 12 harsh parenting, suggesting this path was weaker (but still significant) compared to previous harsh parenting autoregressive paths; (2) the path from age 8 to age 12 maternal depression, suggesting this path was weaker (but still significant) compared to previous depression autoregressive paths; and (3) the path from age 6 to age 8 externalizing problems, suggesting this path was stronger compared to other externalizing autoregressive paths. Removing further constraints did not lead to significantly better model fit, $\Delta\chi^2 = 3.24$, $p = .07$. At this point, the overall SEM for the revised CLPM fit the data adequately, $\chi^2_{272} = 592.24$, $p < .001$, CFI = 0.95, TLI = 0.92, RMSEA = 0.038, 90% CI [0.03, 0.04]. Figure 1 displays all path coefficients and their significance for the traditional CLPM. As described above, harsh parenting at each time point was represented by a latent variable, each comprised of two indicators, psychological aggression and physical aggression. Although fit of the measurement models with only two indicators could not be determined because the model was not identified, their fit was considered in the overall model fit

Table 1. Sociodemographic information and descriptive statistics

	(N = 818)
Child sex; N (% Female)	410 (50.1%)
Mother race/ethnicity; N (%)	–
Black	393 (48.0%)
White	215 (26.3%)
Hispanic/Latino	39 (4.8%)
Mixed/Other	171 (20.9%)
Mother completed high school; N (%)	438 (53.5%)
Mother married at baseline; N (%)	206 (25.2%)
Family below federal poverty limit at baseline; N (%)	676 (82.6%)
Number of mother childhood victimization exposures; M, (SD)	1.56 (2.09)
Mother CES-D Total Score at child age 4; M, (SD)	12.48 (10.93)
Mother CES-D Total Score at child age 6; M, (SD)	11.83 (10.55)
Mother BSI Depression Score at child age 8; M, (SD)	1.86 (2.24)
Mother CES-D Total Score at child age 12; M, (SD)	11.35 (10.04)
CTSPC Psychological Aggression at child age 4; M, (SD)	1.91 (0.74)
CTSPC Psychological Aggression at child age 6; M, (SD)	1.84 (0.77)
CTSPC Psychological Aggression at child age 8; M, (SD)	1.12 (0.76)
CTSPC Psychological Aggression at child age 12; M, (SD)	1.92 (1.60)
CTSPC Physical Aggression at child age 4; M, (SD)	1.52 (0.98)
CTSPC Physical Aggression at child age 6; M, (SD)	1.29 (0.95)
CTSPC Physical Aggression at child age 8; M, (SD)	0.77 (0.61)
CTSPC Physical Aggression at child age 12; M, (SD)	0.89 (1.30)
Child Externalizing Problems T-Score at age 4; M, (SD)	55.34 (10.69)
Child Externalizing Problems T-Score at age 6; M, (SD)	55.34 (10.88)
Child Externalizing Problems T-Score at age 8; M, (SD)	54.22 (11.39)
Child Externalizing Problems T-Score at age 12; M, (SD)	54.72 (11.38)
Symptom Count for Conduct Disorder; M, (SD)	3.51 (3.78)
Symptom Count for Oppositional Defiant Disorder; M, (SD)	4.04 (3.25)

Note. CES-D = Center for Epidemiologic Studies Depression Scale; BSI = Brief Symptom Inventory; CTSPC = Conflict Tactics Scale: Parent to Child.

of the SEM. Standardized factor loadings for the harsh parenting latent variables were large and statistically significant at all time points, both for psychological aggression ($\lambda s = 0.63 – 0.76$, $ps < .001$) and physical aggression ($\lambda s = 0.69 – 0.77$, $ps < .001$).

Structural equation model for the RI-CLPM

Intraclass correlations

To determine the proportion of variance explained by between- vs. within-person differences, intraclass correlations were calculated for each panel variable: maternal depression, harsh parenting, and child externalizing problems. Random-intercept auto-regressive models were fit for each variable separately and the ICC was computed by dividing the variance of the intercept by the random intercept variance plus the residual variance at time point 1 (i.e., child age 4; K. Grimm, personal communication, April 10th, 2024). Thus, the ICC represents the correlation between the variance of
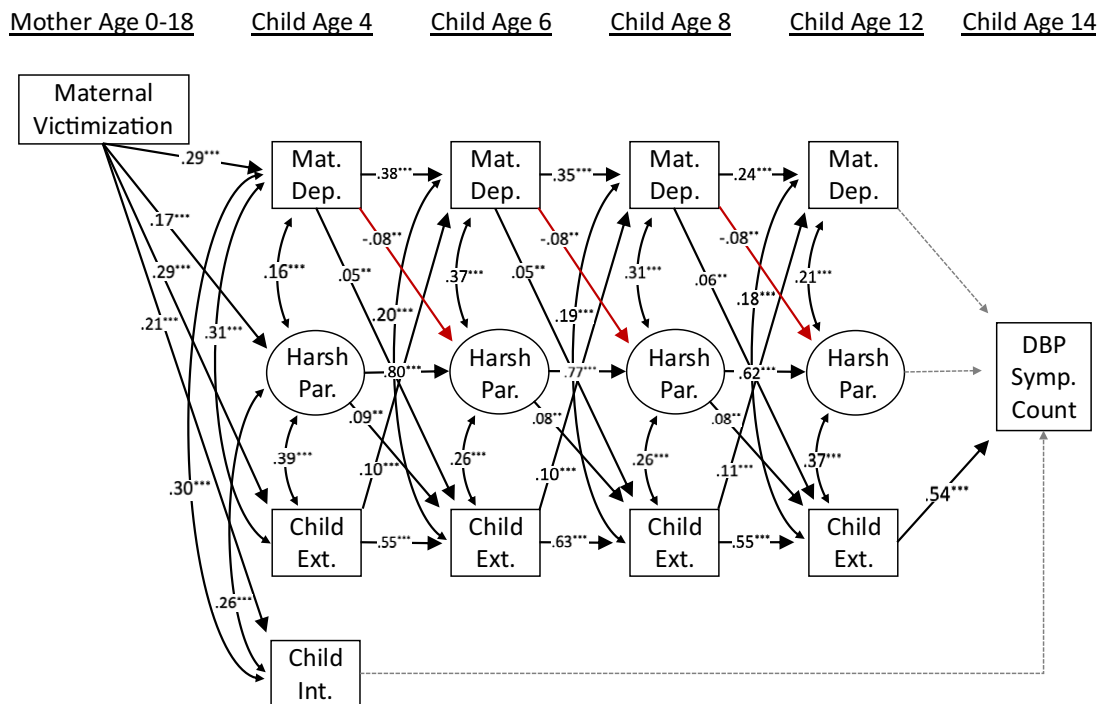
Figure 1. Significant path coefficients in the traditional cross-lagged panel model. Note. Dep. = depression; par. = parenting; Ext. = externalizing; int. = internalizing; DBP = disruptive behavior problems; symp. = symptom.

the intercept and the total variance (i.e., the variance of the intercept plus the residual variance). The ICC for maternal depression was 0.32, indicating that 32% of the variance in maternal depression can be attributable to between-person (i.e., trait-like) differences, leaving 68% of the variance attributable to within-person (i.e., state) differences across time. The ICC for harsh parenting was 0.61, leaving 39% of the variance attributable to within-person differences across time. The ICC for child externalizing problems was 0.51, leaving 49% of the variance attributable to within-person differences across time. This indicates that the RI-CLPM is a suitable approach to parse out within- and between-person sources of variance.

Overall model fit

The SEM for the initial RI-CLPM, which constrained cross-lagged and auto-regressive paths to equivalence across time points, demonstrated poorer-than-acceptable model fit, $\chi^2_{340} = 800.75$, $p < .001$, CFI = 0.93, TLI = 0.91, RMSEA = 0.041, 90% CI [0.037, 0.044]. Guided by modification indices, parameter constraints were iteratively removed until the revised model fit did not significantly differ from the previous (more constrained) model (i.e., $\Delta\chi^2$ $p > .05$). First, constraints involving covariates were removed (e.g., autoregressive covariate paths constrained to equivalence across times points). Following this step, modification indices did not suggest the removal of further path constrains. At this point, the overall SEM for the revised RI-CLPM fit the data adequately, $\chi^2_{322} = 654.60$, $p < .001$, CFI = 0.95, TLI = 0.93, RMSEA = 0.036, 90% CI [0.032, 0.039]. Figure 2 displays all path coefficients and their significance for the RI-CLPM.

Results for Hypothesis #1: Maternal childhood victimization would be associated with baseline (i.e., child age 4) and trait

levels of their depressive symptoms, harsh parenting, and their children's externalizing problems

Consistent with hypothesis #1, more victimization in mothers' childhoods was significantly and positively associated with all three panel variables in the CLPM at baseline (i.e., child age 4): depressive symptoms, $\beta = 0.29$, $p < .001$, 95% CI [0.21, 0.38], harsh parenting, $\beta = 0.17$, $p < .001$, 95% CI [0.08, 0.24], and child externalizing problems, $\beta = 0.29$, $p < .001$, 95% CI [0.21, 0.36]. Additionally, maternal childhood victimization was associated with the random intercepts (i.e., trait-like levels) of all three panel variables in the RI-CLPM: depressive symptoms, $\beta = 0.29$, $p < .001$, 95% CI [0.16, 0.42] harsh parenting, $\beta = 0.12$, $p = .02$, 95% CI [0.02, 0.22] and child externalizing problems, $\beta = 0.27$, $p < .001$, 95% CI [0.17, 0.37].

Results for hypothesis #2: a cascading, serial mediation process would be identified from maternal childhood victimization to increased maternal depressive symptoms at child age 4, leading to increased harsh parenting at child age 6, leading to increased child externalizing problems at age 8

As mentioned above, more victimization in mothers' childhoods was associated with increased depressive symptoms in adulthood in both models. However, whereas the RI-CLPM supported the hypothesized path from higher-than-expected maternal depressive symptoms to higher-than-expected harsh parenting ($\beta = 0.07$ $p = .04$, 95% CI [0.003, 0.15]), the traditional CLPM supported the opposite result, suggesting that more depressive symptoms at child age 4 were associated with *decreased* harsh parenting at child age 6 ($\beta = -0.08$ $p = .001$, 95% CI [−0.14, −0.03]−0.14, −0.03]). The final path in our hypothesized cascading process (i.e., harsh parenting at child age 6 to increased child age 8 externalizing problems) was significant and positive in the traditional CLPM ($\beta = 0.08$ $p = .001$, 95% CI [0.03, 0.13]), but
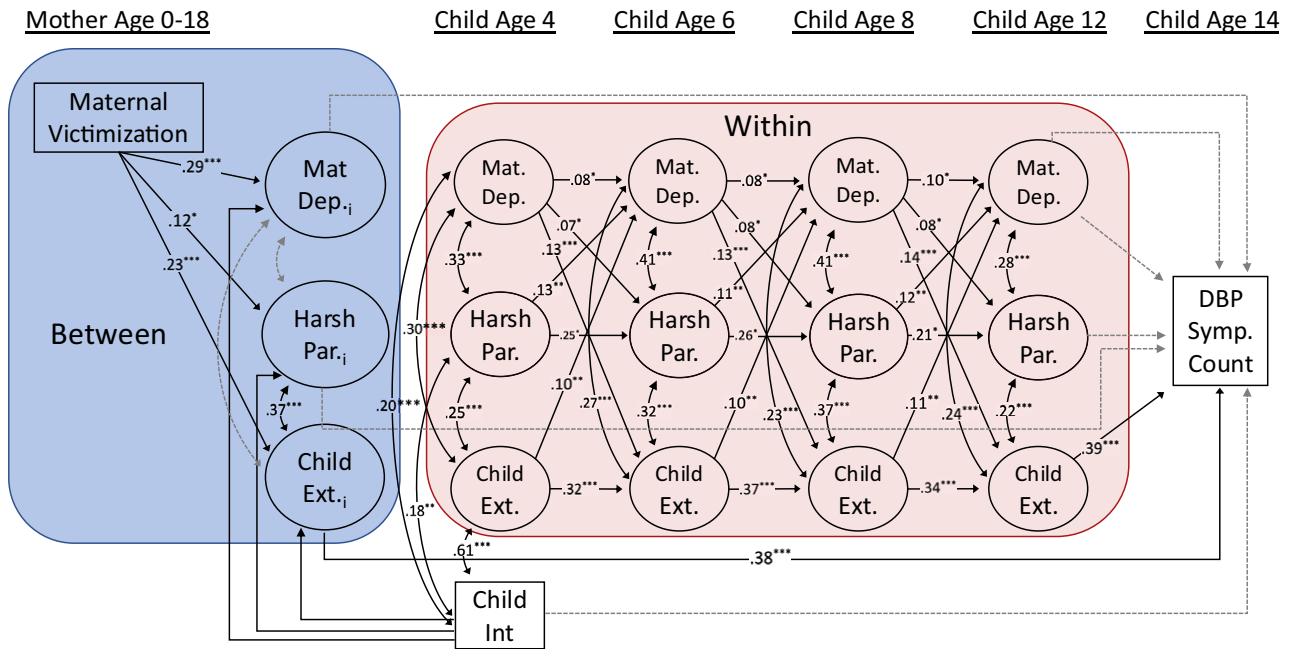
Figure 2. Significant path coefficients in the random intercept cross-lagged panel model. Note. Subscript "i" denotes a random intercept; blue shading indicates between-person components; pink shading indicates within-person components. Dep. = depression; par. = parenting; Ext. = externalizing; int. = internalizing; DBP = disruptive behavior problems; symp. = symptom.

nonsignificant in the RI-CLPM ($\beta = 0.01$ $p = .71$, 95% CI [−0.06, 0.09]−0.06, 0.09]). No significant indirect paths were identified in either model, indicating that the proposed serial mediation process was not present.

Results for hypothesis #3: caregivers' depressive symptoms, harsh parenting, and children's externalizing problems would be associated with increases in levels of one another across child ages 4, 6, 8, and 12, as evidenced by significant and positive cross-lagged associations

Several concurrent and cross-lagged paths were identified in both the traditional CLPM and the RI-CLPM. First, in the traditional CLPM, all three panel variables were significantly and positively associated with one another at concurrent time points. Likewise, in the RI-CLPM, the residuals of all three panel variables (i.e., the within-person components) were significantly and positively associated with one another at concurrent time points. Second, in both models we observed the presence of significant and positive cross-lagged associations between maternal depression and child externalizing problems, which continued reciprocally across time points ($\beta s = 0.05 – 0.14$ $ps < .04$, 95% CIs [0.01, 0.21]). The same bidirectional pattern emerged for the within-person components of maternal depression and harsh parenting in the RI-CLPM ($\beta s = 0.11 – 0.13$, $ps = .01$, 95% CIs [0.001, 0.23]). Finally, and in contrast with our hypotheses, neither model supported a directional association from child externalizing problems to subsequent increases in harsh parenting.

Findings were also notable for several discrepancies between the traditional CLPM and the RI-CLPM. As noted above, whereas the RI-CLPM supported the hypothesized positive association between maternal depression and subsequent harsh parenting across timepoints ($\beta s = 0.07 – 0.08$, $ps < .05$, 95% CIs [0.001, 0.19]), the CLPM suggested a negative association ($\beta s = −0.08$ $ps = .001$, 95% CIs [−0.14, −0.03]−0.14, −0.03]). Also noted above, the traditional CLPM supported our hypothesized path from harsh parenting to increased child externalizing problems across time

points ($\beta s = 0.08 – 0.09$, $ps = .001$, 95% CIs [0.03, 0.14]), whereas the RI-CLPM did not ($\beta s = 0.01$, $ps = .71$, 95% CIs [−0.06, 0.09] −0.06, 0.09]). Of note, the random intercepts (i.e., between-person components) for harsh parenting and child externalizing problems were significantly and positively associated with one another in the RI-CLPM ($r = 0.37$, $p < .001$, 95% CI [0.23, 0.52]).

Results for hypothesis #4: caregivers' depressive symptoms, harsh parenting, and children's externalizing problems at age 12 (and their trait-like components) would be associated with more DSM-5 disruptive behavior problems at age 14 years

In both models, age 12 child externalizing problems were significantly and positively associated with age 14 disruptive behavior problems ($\beta s = 0.39 – 0.54$, $ps < .001$, 95% CIs [0.28, 0.63]). In the RI-CLPM, the random intercept for child externalizing problems was significantly and positively associated with age 14 disruptive behavior problems ($\beta = 0.38$, $p < .001$, 95% CI [0.26, 0.50]). Contrary to our expectations, all other age 12 panel variables and random intercepts were not associated with age 14 disruptive behavior problems. We also did not observe any hypothesized indirect pathways whereby maternal childhood victimization led to increases in their children's disruptive behavior problems through trait-levels of maternal depression, harsh parenting, or child externalizing problems.

Sensitivity analyses

Participants were recruited for LONGSCAN for several reasons, which often varied systematically across sites. Some children were recruited due to the presence of an official maltreatment report at or before age 4 years (i.e., Northwest, Midwest, and Southwest sites). Other children did not have a maltreatment report at the time of study recruitment but were nonetheless considered "high-risk" based on other sociodemographic information (i.e., South and East sites). In light of the potential for maltreatment to increase risk for externalizing problems (Baldwin et al., 2023), we

conducted sensitivity analyses to determine whether the SEM models changed notably when controlling for (1) pre-recruitment maltreatment, defined dichotomously (1 = presence of a maltreatment report prior to age 4; 0 = no official maltreatment report prior to age 4); and (2) maltreatment prior to each time point (1 = presence of a maltreatment allegation or substantiation; 0 = no maltreatment allegation or substantiation).

Pre-recruitment maltreatment and maltreatment over the course of the study were associated with several variables of interest. However, only one path from one of the original models (RI-CLPM) changed in significance. Specifically, the path from the random intercept for harsh parenting to age 14 disruptive behavior problems changed from nonsignificant to significant, $\beta = 0.27$, $p = .02$. In the RI-CLPM, pre-recruitment maltreatment was associated with more maternal childhood victimization, $\beta = 0.34$, $p < .001$, lower trait levels of harsh parenting, $\beta = -0.17$, $p = .001$, higher trait levels of child externalizing problems, $\beta = 0.23$, $p < .001$ and more age 14 disruptive behavior problems, $\beta = 0.16$, $p < .001$. Maltreatment prior to each time point was associated with increases in child externalizing problems, $\beta s = 0.06 - 0.07$, $ps < .001$, and decreases in harsh parenting, $\beta s = -0.06 - -0.09$, $ps < .01$. In the traditional CLPM, pre-recruitment maltreatment was associated with less harsh parenting at child age 4, $\beta = -0.20$, $p < .001$, more maternal depression at child age 8, $\beta = 0.09$, $p = .02$, and more child externalizing problems at age 4 and 6, $\beta s = 0.07 -0.10$, $ps < .02$. Maltreatment prior to each time point was associated with increases in maternal depression at age 4, $\beta = 0.19$, $p < .001$, and increases in child externalizing problems at all time points, $\beta s = 0.08 -0.11$, $ps < .05$.

Discussion

The mechanisms underlying the intergenerational impact of child maltreatment are complex. The present study examined a process by which mothers' early experiences of physical and sexual victimization increase their risk for depressive symptoms and harsh parenting tactics in adulthood, resulting in increased behavior problems among their children. Unique to this study was a focus on reciprocal parent-child interactions, where children were active participants in shaping their family environment. The hypothesized cascading, bidirectional, and reciprocal parent-child pathways were partially supported, particularly when between-person (i.e., trait-like) differences were accounted for. This work has crucial implications for breaking negative cycles of childhood adversity and maladaptive behavior patterns, both across generations and in the context of parent-child interactions during the transition from childhood to adolescence.

Maternal childhood victimization and its association with depression, harsh parenting, and their children's externalizing problems

Consistent with hypothesis #1, more physical and sexual victimization in childhood was associated with increases in mothers' depression and harsh parenting in adulthood, as well as more externalizing problems among their children, controlling for mothers' education level, poverty, marital status, and child internalizing problems. This was observed in the traditional CLPM, where maternal childhood victimization was associated with all three baseline panel variables, and in the RI-CLPM, where maternal childhood victimization was associated with the stable, trait-like components for all three panel variables. This latter

finding supports a large body of theory and research suggesting that, for many, the mental and behavioral health consequences of childhood adversity are long-lasting and can become entrenched in adulthood as trait-like characteristics (Russotti, Warmingham, Duprey, et al., 2021). It is crucial that victims of child abuse receive treatment early, ideally before significant mental health symptoms develop (Qi et al., 2016). While several trauma-informed psychosocial treatments are available, trauma-focused cognitive behavioral therapy (TF-CBT) has emerged as a particularly effective treatment following complex trauma exposure (Morelli et al., 2025).

Cascading, serial mediation process from maternal childhood victimization to children's externalizing problems

A major tenet within the developmental psychopathology framework is the potential for cascading sequences of effects, whereby early developmental challenges or disruptions can lead to a series of progressively more complex or severe problems over time, affecting multiple domains of functioning (Cicchetti, 2016). Prior research has suggested a potential long-term, intergenerational process in which childhood victimization leads to more depressive symptoms in adulthood, increasing parents' vulnerability for using harsh discipline tactics, ultimately resulting in more externalizing problems among their children (Nelson et al., 2017; Pinquart, 2017; Rueger et al., 2011). In the present study, this hypothesized intergeneration serial mediation process was only partially supported. More victimization in mothers' childhoods was indeed associated with more depressive symptoms in adulthood across both models. However, maternal depressive symptoms were associated with more harsh parenting at subsequent time points only in RI-CLPM (not the CLPM), and harsh parenting was associated with more subsequent child externalizing problems only in the CLPM (not the RI-CLPM).

Despite these inconsistent findings, several aspects of the present study still highlight mental health and parenting as key mechanisms in the intergenerational impact of childhood adversity. As stated above, maternal childhood victimization was associated with all three panel variables, both at study baseline and with their trait-like components across the study period. Moreover, all three panel variables were associated with one another at concurrent time points, even after accounting for their between-person, trait-like components via the RI-CLPM. This latter finding suggests that when mothers were experiencing levels of depression that were elevated relative to their long-term average, they were also using harsher-than-typical parenting tactics, and their children were experiencing higher-than-typical levels of externalizing problems. Previous RI-CLPMs almost always identify similar concurrent, within-person associations (e.g., between maladaptive parenting and child behavior problems; spanking and child externalizing problems; Kullberg et al., 2023; Pritsker, 2021; Zhang et al., 2020). Other methodological approaches that focus on more immediate family dynamics (e.g., ecological momentary assessment) have documented that increases in parents' depression or harsh parenting are often followed by proximate increases in child behavior problems (Byrd et al., 2021; Li & Lansford, 2018) It is possible that the path from harsh parenting to child behavior problems is better understood on a smaller timescale (e.g., week-to-week or day-to-day), with effects waning as follow-up time increases. In the present study, even when longitudinal paths were supported, effect sizes were often small (e.g., $\beta s = 0.07 - 0.09$) relative to concurrent associations (e.g., $\beta s = 0.16 - 0.41$).

The consistent associations among maternal depression, harsh parenting, and child externalizing problems have important clinical implications. First and foremost, child-focused interventions that do not include parent training are unlikely to be sufficient for breaking long-term patterns of externalizing problems (Kaminski & Claussen, 2017). Despite the availability of several evidence-based, front-line interventions that incorporate caregivers (e.g., Parent Management Training [PMT], Child-Parent Psychotherapy [CPP], Modular Approach to Therapy for Children [MATCH] — Conduct Disorder Protocol; Kazdin, 2005; Lieberman et al., 2005; Weisz et al., 2012), in practice, many clinicians continue to implement individually-focused interventions with children (e.g., psychoanalysis) to address disruptive behavior problems (Beidas et al., 2015). Interventions should not only incorporate both caregivers and children in treatment, but should explicitly address caregiver mental health and parenting behaviors as co-occurring, mutually reinforcing targets of treatment. For example, in treatments like CPP or MATCH, these findings support the integration of modules focused on parental emotion regulation, trauma processing, and parenting self-efficacy, particularly for caregivers with histories of victimization. Tailoring interventions to directly address the interplay between caregiver distress and harsh parenting, rather than viewing them as separate treatment foci, may improve treatment durability and outcomes across generations. In this way, our findings inform the focus of trauma-informed modalities by highlighting the importance of dynamic, transactional processes between caregivers and children, suggesting that interventions may be most effective when they move beyond a trauma history lens to also address ongoing caregiver-child interactions as mechanisms of risk and resilience.

Cross-lagged, bidirectional, and reciprocal associations among maternal depression, harsh parenting, and child externalizing problems

A major focus of the present study was the potential for evocative and bidirectional parent-child effects, an equally important concept within the developmental psychopathology framework (Cicchetti, 2016; Masten & Cicchetti, 2010). Evidence for such a process is extensive (Paschall & Mastergeorge, 2016), however, fewer studies have attempted to isolate within-person bidirectional effects using the current panel variables in a single, comprehensive model. Consistent across both models was the emergence of cross-lagged, bidirectional associations between maternal depression and child externalizing problems across time points. The directional association from maternal depression to child externalizing problems has been documented extensively (Sutherland et al., 2022). Depressed mothers tend to develop less secure parent-child attachments, use fewer and less effective behavior management practices, and provide fewer opportunities for peer socialization compared to non-depressed mothers (Loheide-Niesmann et al., 2022). Confounding environmental variables (e.g., poverty, violence exposure) and heritability factors (e.g., conferred genetic risk for general psychopathology) also play a role (Loheide-Niesmann et al., 2022).

The reverse process – children's externalizing problems leading to increased maternal depressive symptoms – has been explored less often; however, existing research has shed light on possible mechanisms. Parents of children with behavioral challenges experience significant day-to-day stress (Kochanova et al., 2021; Neece et al., 2012), a strong predictor of depression. Parenting disruptive children has also been shown to decrease parenting self-efficacy (Farmer & Lee, 2011). Given the context of the present study (i.e., high rates of child maltreatment and loss of custody), mothers' may have been particularly vulnerable to guilt, loss of confidence, and other negative emotions and cognitions that can emerge in response to child behavior problems. Complicating this picture is the finding that mothers' harsh parenting was associated with increases in later depressive symptoms, and vice versa, again implicating shame and poor parenting self-efficacy as factors that might maintain long-term cycles of harsh parenting. Interventions that are able to target caregiver mental health, parenting, and child behavior problems simultaneously may be more effective compared to more traditional parent management interventions, particularly when caregivers have significant histories of abuse (Dedousis-Wallace et al., 2021).

Several of the hypothesized bidirectional paths did not emerge, or emerged in one model but not the other. One intriguing finding concerned the directional path from maternal depression to harsher parenting at subsequent time points; this path was significant and positive in the RI-CLPM (as hypothesized), but significant and negative in the CLPM. A large body of longitudinal evidence suggests a positive association between maternal depression and harsh parenting (Goodman et al., 2020), making it likely that this finding is the result of the traditional CLPM's mixture of between- and within-person variance. Hamaker et al. (2015), in their widely-cited critique of the traditional CLPM, demonstrated this phenomenon using simulated data. Because the traditional CLPM fails to properly separate between-subject differences from within-subject ones, it runs the risk confounding the within-subject relations of interest with between-subject ones, resulting in potentially spurious lagged associations, including associations that differ in sign. Although it is difficult to predict exactly when this will happen, Hamaker et al. (2015) warned that panel variables with strong trait-like components (e.g., depression) are likely to have a greater distorting effects. It is likely, therefore, that the results regarding maternal depression and harsh parenting are more accurate in the RI-CLPM.

Other inconsistencies and null findings emerged as well. The hypothesized bidirectional association between harsh parenting and child externalizing problems did not emerge, despite substantial support in prior longitudinal studies (for review, see Yan et al., 2021). Most of this previous work did not attempt to parse out the between-person, trait-like associations between harsh parenting and child externalizing problems. The present study exemplified the importance of doing so. Caregivers' interactions with their children, as well as their own mental health, are influenced by myriad factors. An individual caregiver might employ harsher discipline strategies than what is typical for them at certain times because they are temporarily experiencing more stress, more difficulty with their children, or worsening depressive symptoms (Gershoff et al., 2012; MacKenzie et al., 2015; Rueger et al., 2011; Serbin et al., 2015). These temporary fluctuations represent their *within*-person variance. Simultaneously, some caregivers have a harsher approach to parenting than other caregivers in general, over and above their temporal fluctuations. This variance *between* caregivers represents the trait-like component to harsh parenting, and may be influenced by their early environment (e.g., exposure to victimization in childhood Morrel and colleagues; Collishaw et al., 2007; Morrel et al., 2003), or by genetic factors (e.g., predisposition toward emotion dysregulation and impulsivity; Hajal et al., 2015). The same is true for children's behavior problems, which can fluctuate from time to time *within* an individual child and vary in severity *between* children.

When between-person (or trait-like) associations were not accounted for (i.e., in the traditional CLPM), findings suggested a directional association from harsh parenting to increased child externalizing problems at later time points. However, when between-person (trait-like) associations were accounted for (i.e., in the RI-CLPM), two important findings emerged: (1) harsh parenting and child externalizing problems shared a significant amount of between-person (trait-like) variance; this finding is consistent with previous RI-CLPM analyses, which consistently find that harsh, aggressive, or psychologically controlling parenting is associated with child externalizing problems at the between-person level (Kullberg et al., 2023; Pritsker, 2021; Robillard et al., 2022; Speyer et al., 2022; Zhang et al., 2020); and (2) after accounting for this between-person association, harsh parenting no longer predicted externalizing problems at subsequent time points. While some RI-CLPM analyses have identified both between- and within-person effects (Schütte et al., 2022; Speyer et al., 2022), other studies have found only between-person effects (Kullberg et al., 2023; Pritsker, 2021). Regardless of whether harsh parenting and child externalizing problems causally lead to increases in one another, the present findings provide evidence for an underlying trait-level construct that affects both caregivers' parenting and children's behavior problems and justifies separating out this between-person variance before interpreting longitudinal cross-lagged effects.

Panel variables and their association with age 14 DSM-5 disruptive behavior problems

Children's age 14 disruptive behavior problems were predicted only by prior externalizing problems, both at age 12 and trait levels of externalizing problems across the course of the study. Contrary to hypotheses, neither maternal depression nor harsh parenting were associated with children's disruptive behavior problems. Furthermore, we did not identify any mediational processes in which trait-like levels of maternal depression, harsh parenting, or child externalizing problems explained the intergenerational impact of maternal childhood victimization on their children's disruptive behavior problems in adolescence. This finding is in contrast with prior research, including meta-analytic evidence, which has supported the role of caregiver mental health (e.g., depression) and parenting style (e.g., authoritarian) in exacerbating or maintaining adolescents' CD and ODD symptoms (Lin et al., 2022). However, it has also been shown that as children transition into early and middle adolescence, other factors not assessed in the present study (e.g., peer and community influences) begin to compete with the family environment as a major determinant of disruptive behavior and rule-breaking (McGloin & Thomas, 2019). Future work would benefit from considering how peer- (e.g., involvement in deviant social groups) and community-level (e.g., community violence/crime) factors might impact adolescents' disruptive behavior problems bidirectionally in similar cross-lagged models.

Strengths, limitations, and future directions

This study offers many strengths, namely, its use of rich, multimodal, prospective data spanning two generations and multiple developmental periods. Prior work has rarely had access to this number of time points and length of follow-up, mostly focusing on 2–3 time points during childhood. Previous research investigating negative cycles of parenting and child behavior has also generally focused on White, middle- and upper-class samples. Few studies have included socioeconomically disadvantaged, racially/ethnically diverse families enriched for violence exposure and maltreatment, despite the fact that these families tend to be most impacted by mental illness, maladaptive patterns of behavior, and family dysfunction (Whitten et al., 2024).

The strengths of this study should be considered in context of its limitations. First, most of the assessed variables were mother-reported, with the exception of children's age 14 disruptive behavior problems, which combined mother and child report. Reliance on a single reporter can inflate the strength of associations (Baribeau et al., 2022). Mothers also reported on their experiences of childhood victimization retrospectively from a limited number of items, which can introduce memory and response bias (Widom, 2019). Future studies attempting to model the intergenerational transmission and impact of victimization should, if possible, collect prospective data from multiple sources and seek to include caregivers beyond biological mothers (e.g., fathers, grandparents). We also acknowledge that some constructs in LONGSCAN were measured inconsistently across time points (e.g., harsh parenting, maternal depression), which required adaptation. Further, mother-child dyads were selected because they were at high risk for maltreatment, and children demonstrated elevated levels of externalizing problems and disruptive behavior problems relative to the general population. Although this could limit the generalizability of our findings, our results are of strong relevance for disrupting negative intergenerational cycles in families most impacted by these factors. Finally, some have argued that the RI-CLPM, despite its many advantages, may not be optimal for modeling data separated by long intervals (e.g., > 2 years; Lüdtke & Robitzsch, 2021).

Conclusions

This work fills important gaps in the intergenerational maltreatment literature by examining the possibility of long-term, bidirectional patterns in which parents and children exacerbate each other's symptoms over time. Findings supported (1) an association between mothers' victimization in childhood and their levels of depression and harsh parenting in adulthood; (2) multiple bidirectional and reciprocal processes whereby mothers' depression, harsh parenting, and child externalizing problems exacerbated one another across time; and (3) the methodological advantages of accounting for between-person, trait-like associations when analyzing cross-lagged panel data. This work aligns with developmental psychopathology frameworks, which posit that children are not purely the recipients of their caregivers' influence, but rather are active participants in shaping their environments. Our findings also highlight the importance of addressing caregiver mental health and trauma history when implementing evidence-based, parent-mediated interventions for child behavior problems. Future research should consider how peer and community influences interact with family processes, particularly during adolescence, and incorporate methodologies such as ecological momentary assessment to better capture dynamic, short-term transactional processes. Expanding this work to include more diverse family structures and caregiver types (e.g., fathers or grandparents) would also provide a more comprehensive understanding of these intergenerational patterns.

References

Achenbach, T. M., Dumenci, L., & Rescorla, L. A. (2003). DSM-oriented and empirically based approaches to constructing scales from the same item pools. *Journal of Clinical Child & Adolescent Psychology*, *32*(3), 328–340. https://doi.org/10.1207/s15374424jccp3203_02

Achenbach, T. M., & Rescorla, L. (2001). *Manual for the ASEBA school-age forms & profiles: An integrated system of multi-informant assessment.* ASEBA.

Baldwin, J. R., Wang, B., Karwatowska, L., Schoeler, T., Tsaligopoulou, A., Munafò, M. R., & Pingault, J.-B. (2023). Childhood maltreatment and mental health problems: A systematic review and meta-analysis of quasi-experimental studies. *American Journal of Psychiatry*, *180*(2), 117–126.

Baribeau, D. A., Vigod, S., Brittain, H., Vaillancourt, T., Szatmari, P., & Pullenayegum, E. (2022). Application of Transactional (Cross-lagged panel) Models in Mental Health Research: An Introduction and Review of Methodological Considerations. *Journal of the Canadian Academy of Child and Adolescent Psychiatry = Journal de l'Academie canadienne de psychiatrie de l'enfant et de l'adolescent*, *31*(3), 124–134.

Barnett, D., Manly, J. T., & Cicchetti, D. (1993). Defining child maltreatment: The interface between policy and research. In D. Cicchetti, & S. L. Toth (Eds.), *Advances in applied developmental psychology: Child abuse, child development and social policy*. Ablex.

Beidas, R. S., Marcus, S., Aarons, G. A., Hoagwood, K. E., Schoenwald, S., Evans, A. C., Hurford, M. O., Hadley, T., Barg, F. K., Walsh, L. M., Adams, D. R., & Mandell, D. S. (2015). Predictors of community therapists' use of therapy techniques in a large public mental health system. *JAMA Pediatrics*, *169*(4), 374–382. https://doi.org/10.1001/jamapediatrics.2014.3736

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238–246. https://doi.org/10.1037/0033-2909.107.2.238

Byrd, A., Vine, V., Frigoletto, O., Vanwoerden, S., & Stepp, S. (2021). A multi-method investigation of parental responses to youth emotion: Prospective effects on emotion dysregulation and reactive aggression in daily life. *Research on Child and Adolescent Psychopathology*, *50*(2), 1–15.

Cicchetti, D. (2016). Socioemotional, personality, and biological development: Illustrations from a multilevel developmental psychopathology perspective on child maltreatment. *Annual Review of Psychology*, *67*(1), 187–211. https://doi.org/10.1146/annurev-psych-122414-033259

Claridge, A. M., Wojciak, A. S., Lettenberger-Klein, C. G., Pettigrew, H. V., McWey, L. M., & Chaviano, C. L. (2015). Reciprocal associations among maternal and child characteristics of at-risk families: A longitudinal actor-partner interdependence model. *Journal of Marital and Family Therapy*, *41*(3), 308–323.

Collishaw, S., Dunn, J., O'Connor, T. G., & Golding, J. (2007). Maternal childhood abuse and offspring adjustment over time. *Developmetnal Psychopathology*, *19*(2), 367–383. https://doi.org/10.1017/s0954579407070186

Dedousis-Wallace, A., Drysdale, S. A., McAloon, J., & Ollendick, T. H. (2021). Parental and familial predictors and moderators of parent management treatment programs for conduct problems in youth. *Clinical Child and Family Psychology Review*, *24*(1), 92–119. https://doi.org/10.1007/s10567-020-00330-4

Derks, E. M., Hudziak, J. J., Dolan, C. V., Ferdinand, R. F., & Boomsma, D. I. (2006). The relations between DISC-IV DSM diagnoses of ADHD and multi-informant CBCL-AP syndrome scores. *Comprehensive Psychiatry*, *47*(2), 116–122. https://doi.org/10.1016/j.comppsych.2005.05.006

Derogatis, L. R. (1993). *BSI brief symptom inventory. Administration, scoring, and procedures manual*. Minneapolis, MN: National Computer Systems.

Enders, C. K. (2010). *Applied missing data anslysis*. The Guilford Press.

English, D. J., & Investigators. (1997). *Modified maltreatment classification system (MMCS)*. http://www.iprc.unc.edu/longscan/

Farmer, A. Y., & Lee, S. K. (2011). The effects of parenting stress, perceived mastery, and maternal depression on parent-child interaction. *Journal of Social Service Research*, *37*(5), 516–525. https://doi.org/10.1080/01488376.2011.607367

Gershoff, E. T., Lansford, J. E., Sexton, H. R., Davis-Kean, P., & Sameroff, A. J. (2012). Longitudinal Links Between Spanking and Children's externalizing behaviors in a national sample of White, Black, Hispanic, and Asian American Families. *Child Development*, *83*(3), 838–843. https://doi.org/10.1111/j.1467-8624.2011.01732.x

Gilbert, L., El-Bassel, N., Schilling, R. F., & Friedman, E. (1997). Childhood abuse as a risk for partner abuse among women in methadone maintenance. *The American Journal of Drug and Alcohol Abuse*, *23*(4), 581–595. https://doi.org/10.3109/00952999709016897

Goodman, S. H., Simon, H. F., Shamblaw, A. L., & Kim, C. Y. (2020). Parenting as a mediator of associations between depression in mothers and children's functioning: A systematic review and meta-analysis. *Clinical Child and Family Psychology Review*, *23*(4), 427–460.

Grimm, K. J., Helm, J., Rodgers, D., & O'Rourke, H. (2021). Analyzing cross-lag effects: A comparison of different cross-lag modeling approaches. *New Directions for Child and Adolescent Development*, *2021*(175), 11–33.

Hajal, N., Neiderhiser, J., Moore, G., Leve, L., Shaw, D., Harold, G., Scaramella, L., Ganiban, J., & Reiss, D. (2015). Angry responses to infant challenges: Parent, marital, and child genetic factors associated with harsh parenting. *Child Development*, *86*(1), 80–93.

Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods*, *20*(1), 102–116.

Henry, S. K., Grant, M. M., & Cropsey, K. L. (2018). Determining the optimal clinical cutoff on the CES-D for depression in a community corrections sample. *Journal of Affective Disorders*, *234*, 270–275.

Hentges, R. F., Graham, S. A., Plamondon, A., Tough, S., & Madigan, S. (2021). Bidirectional associations between maternal depression, hostile parenting, and early child emotional problems: Findings from the all our families cohort. *Journal of Affective Disorders*, *287*, 397–404.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Hunter, W., & Everson, M. (1991). *Mother's history of loss and harm* [Unpublished instrument]. University of North Carolina at Chapel Hill.

Hunter, W., Voorhorst, S., Runyan, D., & Everson, M. (1994). *Revictimization histories and psychiatric symptoms of mothers of sexually abused children* [Unpublished manuscript]. University of North Carolina at Chapel Hill.

Kaminski, J. W., & Claussen, A. H. (2017). Evidence base update for psychosocial treatments for disruptive behaviors in children. *Journal of Clinical Child & Adolescent Psychology*, *46*(4), 477–499.

Kazdin, A. E. (2005). *Parent management training: Treatment for oppositional, aggressive, and antisocial behavior in children and adolescents*. Oxford University Press.

Kline, R. B. (2023). Principles and practice of structural equation modeling. Guilford publications.

Kochanova, K., Pittman, L. D., & Pabis, J. M. (2021). Parenting stress, parenting, and adolescent externalizing problems. *Journal of Child and Family Studies*, *30*(9), 2141–2154.

Kullberg, M. J., Van Schie, C. C., Allegrini, A. G., Ahmadzadeh, Y., Wechsler, D. L., Elzinga, B. M., & McAdams, T. A. (2023). Comparing findings from the random-intercept cross-lagged panel model and the monozygotic twin difference cross-lagged panel model: Maladaptive parenting and offspring emotional and behavioural problems. *JCPP Advances*, *4*(1), e12203. https://doi.org/10.1002/jcv2.12203

Li, J. J., & Lansford, J. E. (2018). A smartphone-based ecological momentary assessment of parental behavioral consistency: Associations with parental stress and child ADHD symptoms. *Developmental Psychology*, *54*(6), 1086–1098.

Lieberman, A. F., Van Horn, P., & Ippen, C. G. (2005). Toward evidence-based treatment: Child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child & Adolescent Psychiatry*, 44(12), 1241–1248.

Lin, X., He, T., Heath, M., Chi, P., & Hinshaw, S. (2022). A systematic review of multiple family factors associated with oppositional defiant disorder. *International Journal of Environmental Research and Public Health*, 19(17), 10866.

Loheide-Niesmann, L., Riem, M. M., & Cima, M. (2022). *The impact of maternal childhood maltreatment on child externalizing behaviour and the mediating factors underlying this association: A three-level meta-analysis and systematic review* (pp. 1–26). European Child & Adolescent Psychiatry.

Lüdtke, O., & Robitzsch, A. (2021). *A critique of the random intercept cross-lagged panel model* [Preprint]. PsyArxiv. https://doi.org/10.31234/osf.io/6f85c

MacKenzie, M. J., Nicklas, E., Brooks-Gunn, J., & Waldfogel, J. (2015). Spanking and children's externalizing behavior across the first decade of life: Evidence for transactional processes. *Journal of Youth and Adolescence*, 44(3), 658–669. https://doi.org/10.1007/s10964-014-0114-y

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7(1), 83–104. https://doi.org/10.1037//1082-989X.7.1.83

Masten, A. S., & Cicchetti, D. (2010). Developmental cascades. *Development and Psychopathology*, 22(3), 491–495.

McGloin, J. M., & Thomas, K. J. (2019). Peer influence and delinquency. *Annual Review of Criminology*, 2, 241–264. https://doi.org/10.1146/annurev-criminol-011518-024551

Morelli, N. M., Duong, J., Evans, M. C., Hong, K., Garcia, J., Ogbonnaya, I. N., & Villodas, M. T. (2021). Intergenerational transmission of abusive parenting: Role of prospective maternal distress and family violence. *Child Maltreatment*, 26(2), 172–181. https://doi.org/10.1177/1077559520947816

Morelli, N. M., Straub, D., Hong, K., Nguyen, T., Tabibian, D., & Villodas, M. (2025). Effectiveness of trauma-focused cognitive behavioral therapy (TF-CBT) for youth with complex trauma exposure: A systematic review [Manuscript under review].

Morrel, T. M., Dubowitz, H., Kerr, M. A., & Black, M. M. (2003). The effect of maternal victimization on children: A cross-informant study. *Journal of Family Violence*, 18(1), 29–41. https://doi.org/10.1023/A:1021401414414

Munkvold, L. H., Lundervold, A. J., & Manger, T. (2011). Oppositional defiant disorder—Gender differences in co-occurring symptoms of mental health problems in a general population of children. *Journal of Abnormal Child Psychology*, 39(4), 577–587.

Murray, J., & Farrington, D. P. (2010). Risk factors for conduct disorder and delinquency: Key findings from longitudinal studies. *The Canadian Journal of Psychiatry*, 55(10), 633–642.

Muthén, L. K., & Muthén, B. O. (2017). *Mplus user's guide* (8th ed.). Muthén & Muthén.

Neece, C. L., Green, S. A., & Baker, B. L. (2012). Parenting stress and child behavior problems: A transactional relationship across time. *American Journal on Intellectual and Developmental Disabilities*, 117(1), 48–66. https://doi.org/10.1352/1944-7558-117.1.48

Nelson, J., Klumparendt, A., Doebler, P., & Ehring, T. (2017). Childhood maltreatment and characteristics of adult depression: Meta-analysis. *British Journal of Psychiatry*, 210(2), 96–104. https://doi.org/10.1192/bjp.bp.115.180752

Paschall, K. W., & Mastergeorge, A. M. (2016). A review of 25 years of research in bidirectionality in parent-child relationships: An examination of methodological approaches. *International Journal of Behavioral Development*, 40(5), 442–451.

Pereira, J., Ludmer, J. A., Gonzalez, A., & Atkinson, L. (2018). Mothers' personal and interpersonal function as potential mediators between maternal maltreatment history and child behavior problems. *Child Maltreatment*, 23(2), 147–156.

Pinquart, M. (2017). Associations of parenting dimensions and styles with externalizing problems of children and adolescents: An updated meta-analysis. *Developmental Psychology*, 53(5), 873–932. https://doi.org/10.1037/dev0000295

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. https://doi.org/10.3758/BRM.40.3.879

Prelow, H. M., Weaver, S. R., Swenson, R. R., & Bowman, M. A. (2005). A preliminary investigation of the validity and reliability of the brief-symptom inventory-18 in economically disadvantaged Latina American mothers. *Journal of Community Psychology*, 33(2), 139–155.

Pritsker, J. (2021). Spanking and externalizing problems: Examining within-subject associations. *Child Development*, 92(6), 2595–2602.

Qi, W., Gevonden, M., & Shalev, A. (2016). Prevention of post-traumatic stress disorder after trauma: Current evidence and future directions. *Current Psychiatry Reports*, 18(2), 20. https://doi.org/10.1007/s11920-015-0655-0

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385–401. https://doi.org/10.1177/014662167700100306

Robillard, C. L., Balakrishnan, C., Craig, S. G., & Turner, B. J. (2022). A two-way street? Reciprocal associations between parental warmth and hostility with substance use among justice-involved adolescents. *Journal of Youth and Adolescence*, 51(7), 1–15.

Rueger, S. Y., Katz, R. L., Risser, H. J., & Lovejoy, M. C. (2011). Relations between parental affect and parenting behaviors: A meta-analytic review. *Parenting: Science and Practice*, 11(1), 1–33.

Runyan, D. K., Curtis, P. A., Hunter, W. M., Black, M. M., Kotch, J. B., Bangdiwala, S., Dubowitz, H., English, D., Everson, M. D., & Landsverk, J. (1998). LONGSCAN: A consortium for longitudinal studies of maltreatment and the life course of children. *Aggression and Violent Behavior*, 3(3), 275–285. https://doi.org/10.1016/S1359-1789(96)00027-4

Russotti, J., Warmingham, J. M., Duprey, E. B., Handley, E. D., Manly, J. T., Rogosch, F. A., & Cicchetti, D. (2021). Child maltreatment and the development of psychopathology: The role of developmental timing and chronicity. *Child Abuse & Neglect*, 120, 105215.

Russotti, J., Warmingham, J. M., Handley, E. D., Rogosch, F. A., & Cicchetti, D. (2021). Child maltreatment: An intergenerational cascades model of risk processes potentiating child psychopathology. *Child Abuse & Neglect*, 112, 104829.

Schulz, S., Nelemans, S. A., Oldehinkel, A. J., Meeus, W., & Branje, S. (2021). Examining intergenerational transmission of psychopathology: Associations between parental and adolescent internalizing and externalizing symptoms across adolescence. *Developmental Psychology*, 57(2), 269–283.

Schütte, S., Lohaus, A., Symanzik, T., Heinrichs, N., Konrad, K., & Reindl, V. (2022). *Longitudinal associations between parenting and child behaviour problems and the moderating effect of child callous unemotional traits in Foster and biological families* (pp. 1–13). Child Psychiatry & Human Development.

Serbin, L. A., Kingdon, D., Ruttle, P. L., & Stack, D. M. (2015). The impact of children's internalizing and externalizing problems on parenting: Transactional processes and reciprocal change over time. *Development and Psychopathology*, 27(4pt1), 969–986.

Shaffer, A., Lindhiem, O., Kolko, D. J., & Trentacosta, C. J. (2013). Bidirectional relations between parenting practices and child externalizing behavior: A cross-lagged panel analysis in the context of a psychosocial treatment and 3-year follow-up. *Journal of Abnormal Child Psychology*, 41(2), 199–210.

Shaffer, D., Fisher, P., Dulcan, M. K., Davies, M., Piacentini, J., Schwab-Stone, M. E., Lahey, B. B., Bourdon, K., Jensen, P. S., Bird, H. R., Canino, G., & Regier, D. A. (1996). The NIMH diagnostic interview schedule for children version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA study. Methods for the epidemiology of child and adolescent mental disorders study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 35(7), 865–877. https://doi.org/10.1097/00004583-199607000-00012

Shaffer, D., Fisher, P., Lucas, C. P., Dulcan, M. K., & Schwab-Stone, M. E. (2000). NIMH diagnostic interview schedule for children version IV (NIMH DISC-IV): Description, differences from previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child & Adolescent Psychiatry*, 39(1), 28–38. https://doi.org/10.1097/00004583-200001000-00014

Shaw, D. S., Sitnick, S. L., Reuben, J., Dishion, T. J., & Wilson, M. N. (2016). Transactional effects among maternal depression, neighborhood deprivation, and child conduct problems from early childhood through adolescence: A tale of two low-income samples. *Development and Psychopathology*, *28*(3), 819–836.

Speyer, L. G., Hang, Y., Hall, H. A., & Murray, A. L. (2022). The role of harsh parenting practices in early-to middle-childhood socioemotional development: An examination in the Millennium Cohort Study. *Child Development*, *93*(5), 1304–1317. https://doi.org/10.1111/cdev.13761

Steiger, J. H. (1990). Structural model evaluation and modification - an interval estimation approach. *Multivariate Behavioral Research*, *25*(2), 173–180. https://doi.org/10.1207/S15327906mbr2502_4

Straus, M. A., & Hamby, S. L. (1997). Measuring physical and psychological maltreatment of children with the conflict tactics scales. In *Out of darkness: Contemporary perspectives on family violence* (pp. 119–135). Sage Publications, Inc. https://doi.org/10.4135/9781483 328058.n10

Straus, M. A., Hamby, S. L., Finkelhor, D., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the parent-child conflict tactics scales: Development and psychometric data for a national sample of American parents. *Child Abuse & Neglect*, *22*(4), 249–270. https://doi.org/10.1016/S0145-2134(97)00174-9

Su, Y., D'Arcy, C., & Meng, X. (2022). Intergenerational effect of maternal childhood maltreatment on next generation's vulnerability to psychopathology: A systematic review with meta-analysis. *Trauma, Violence, & Abuse*, *23*(1), 152–162.

Sutherland, S., Nestor, B. A., Pine, A. E., & Garber, J. (2022). Characteristics of maternal depression and children's functioning: A meta-analytic review. *Journal of Family Psychology*, *36*(5), 671–680.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, *38*(1), 1–10. https://doi.org/10.1007/BF02291170

Wamser-Nanney, R., & Campbell, C. L. (2022). Factors associated with caregiver help seeking behavior among at-risk children. *Child Abuse & Neglect*, *134*, 105937.

Weisz, J. R., Chorpita, B. F., Palinkas, L. A., Schoenwald, S. K., Miranda, J., Bearman, S. K., Daleiden, E. L., Ugueto, A. M., Ho, A., & Martin, J. (2012). Testing standard and modular designs for psychotherapy treating depression, anxiety, and conduct problems in youth: A randomized effectiveness trial. *Archives of General Psychiatry*, *69*(3), 274–282.

Whelan, Y. M., Leibenluft, E., Stringaris, A., & Barker, E. D. (2015). Pathways from maternal depressive symptoms to adolescent depressive symptoms: The unique contribution of irritability symptoms. *Journal of Child Psychology and Psychiatry*, *56*(10), 1092–1100.

Whitten, T., Tzoumakis, S., Green, M. J., & Dean, K. (2024). Global prevalence of childhood exposure to physical violence within domestic and family relationships in the general population: A systematic review and proportional meta-analysis. *Trauma, Violence, & Abuse*, *25*(2), 1411–1430.

Widom, C. S. (2019). Are retrospective self-reports accurate representations or existential recollections? *JAMA Psychiatry*, *76*(6), 567. https://doi.org/10.1001/jamapsychiatry.2018.4599

Wiggins, J. L., Mitchell, C., Hyde, L. W., & Monk, C. S. (2015). Identifying early pathways of risk and resilience: The codevelopment of internalizing and externalizing symptoms and the role of harsh parenting. *Development and Psychopathology*, *27*(4pt1), 1295–1312.

Wiggins, J. L., Mitchell, C., Stringaris, A., & Leibenluft, E. (2014). Developmental trajectories of irritability and bidirectional associations with maternal depression. *Journal of the American Academy of Child & Adolescent Psychiatry*, *53*(11), 1191–1205.e4.

Wyatt, G. E., & Peters, S. D. (1986). Issues in the definition of child sexual abuse in prevalence research. *Child Abuse & Neglect*, *10*(2), 231–240. https://doi.org/10.1016/0145-2134(86)90084-0

Yan, N., Ansari, A., & Peng, P. (2021). Reconsidering the relation between parental functioning and child externalizing behaviors: A meta-analysis on child-driven effects. *Journal of Family Psychology*, *35*(2), 225–235.

Yan, N., Liu, Y., Ansari, A., Li, K., & Li, X. (2021). Mothers' depressive symptoms and children's internalizing and externalizing behaviors: Examining reciprocal trait-state effects from Age 2 to 15. *Child Development*, *92*(6), 2496–2508.

Yu, Z., Zhao, A., & Liu, A. (2017). Childhood maltreatment and depression: A meta-analysis. *Acta Psychologica Sinica*, *49*(1), 40–49. https://doi.org/10.3724/SP.J.1041.2017.00040

Zhang, J., Lee, S.-K., Piehler, T. F., Gewirtz, A. H., & August, G. J. (2020). Bidirectional relations between parenting practices and child externalizing behaviors in formerly homeless families: A random-intercept cross-lagged panel analysis. *Parenting*, *20*(3), 177–199.