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Maternal Positive Affect Mediates the Link Between Family Risk and Preschoolers' Positive Affect

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Abstract

The present study sought to further specify conceptual models of youth positive affect (PA) by examining mothers' observed PA as a mediator of the relation between family risk (based on maternal reports of demographic factors) and children's PA in a sample of 82 mothers ($M = 31.25$ years, $SD = 6.16$) and their preschool-aged children ($M = 3.51$ years, $SD = .49$, 63.00% boys). Results yielded a significant, negative correlation between family risk and child PA. Mediation analyses indicated that family risk was related to child PA through its effects on maternal PA, even after controlling for maternal depression symptoms. Findings suggest that family risk and maternal PA are important factors to consider in understanding preschoolers' PA development. Identifying children at risk for developing PA difficulties can aid in the implementation of prevention and intervention strategies for promoting young children's PA specifically, and their psychosocial functioning more broadly.

Keywords

Positive affect; Family risk; Depression symptoms; Preschool

Emerging theoretical and empirical work documents the critical role of positive affect (PA) in youth development [1–3] and thus, indicates the need for an increased focus on this research area. Davis and Suveg [4] recently reviewed this work and proposed a transactional model of child PA that implicates a variety of contextual factors, both biological (e.g., genetics) and environmental (e.g., parent affect, life stressors), in children's PA development. This study aims to empirically test one tenet of this model: that environmental factors, particularly family risk and parent affect, both contribute to children's observed PA.

PA is a multifaceted construct that involves “a set of hedonic, behavioral, motivational, and physiologic features” [1: 830]. The present study focused on PA as an observable mood state, which includes smiling and laughing as well as positive body language and comments that are positive in tone and content (e.g., [5, 6]). In the extant literature, similarities between mother and child PA have been documented (e.g., [7]). Further, research has found that maternal emotion socialization behaviors may be compromised under conditions of risk and, in turn, lead to children's emotional difficulties [8]. Thus, the present study examined

whether family risk contributes to low child PA during the preschool period through its effects on maternal PA. Identifying distal (e.g., total income, maternal education level, marital status) as well as proximal (e.g., maternal PA) risk factors for low child PA during the preschool period in particular can aid in determining optimal points in the risk process to intervene to potentially prevent the cascade of adverse outcomes that may otherwise occur.

The Importance of Child PA for Development

Child PA has been implicated in a variety of domains of positive adjustment (e.g., social competence, cognitive functioning, self-regulatory abilities) for youth from infancy through adolescence [9–11]. Alternatively, low PA has been found to be associated with child psychopathology, particularly depression [12–14]. For instance, low PA (both observed and parent-reported) at age 3 has been found to predict depressive symptoms at age 10 [12]. Though literature on the relations between child PA and internalizing problems has been quite cohesive, research on the relations between PA and externalizing difficulties has yielded more mixed results. On the one hand, some research has demonstrated a negative relation between child PA and externalizing problems (e.g., [15]), with low PA in infancy even predicting children's future maternal-reported conduct problems [16]. On the other hand, some research suggests high levels of positive emotion may be linked to externalizing problems (e.g., [17, 18]). In certain settings, such as the classroom, high displays of positive emotion may be disruptive to others [19]; however, in other situations (e.g., theater performances) such emotional displays may be adaptive. Furthermore, higher levels of emotion, whether positive or negative, may be more difficult for the child to regulate (e.g., [20]) and may result in adverse outcomes under some conditions. Regardless, literature clearly supports the significant role of child PA in adaptive and maladaptive development, and consequently, it is important to develop a better understanding of factors that confer risk for low PA in young children.

Relations Between Family Risk and Child PA

According to the transactional model of child PA [4], a variety of contextual factors are likely to be related to child PA, and in turn, to children's socioemotional functioning more globally, presumably in a bidirectional fashion. To further understand the nature of these proposed relations, and thus to ultimately mitigate children's long-term maladaptation, it is important to identify various risk factors that may be particularly relevant to PA development early in childhood. Yet, relatively limited empirical research has explored the relations between family risk factors and child PA. One study demonstrated that children ages 3 to 9 from lower socioeconomic status (SES) backgrounds, a proxy for family risk, were lower in happiness than children whose families had a higher SES status [21]. Similarly, in terms of marital difficulties, research has indicated that kindergarteners are less likely to report that they would experience happiness in response to unresolved parental conflicts as compared with resolved conflicts [22]. In a sample of third through fifth graders, however, Lengua [23] failed to find a significant bivariate relation between a multiple risk variable (comprised of 11 risk factors across several domains, including demographic, psychosocial, and environmental domains), and child PA.

There are a multitude of factors that could have contributed to this lack of a significant bivariate relation. Perhaps, it could simply be that the ways that family risk relates to child PA are complex, with such risk factors sometimes directly impacting outcomes and other times influencing outcomes indirectly through other variables known to influence emotional development (e.g., parenting behaviors). Moreover, Lengua [23] relied on averages of the standardized scores for mother and child reports of PA. Considering the divergence that has been found in parent and child reports of children's emotional experiences (e.g., [24]), averaging informant and self-reports may yield a less precise estimate of children's emotional functioning than other indices of child PA, such as behavioral observations. Also, it may be the case that only certain facets of risk are related to child PA and, therefore, it would be helpful to examine a smaller number of factors from a single risk domain to better understand the types of risk that are most critical to child PA development. Importantly, no known research has specifically examined multiple family risk factors, particularly demographic factors, in tandem in relation to children's observed PA during the preschool period. Exploring multiple risk factors is crucial given that risk factors tend to co-occur and collectively confer risk for child maladjustment [25]. Therefore, the present study examined the combined contribution of three family risk factors to preschoolers' observed PA.

Family Risk as a Predictor of Child PA Through its Influence on Maternal PA

Family risk likely also impacts child PA indirectly through its effects on parenting. Overall, research indicates that family risk factors (e.g., stress, low income, single parent status, low educational attainment, large household size, and adolescent motherhood) are associated with a host of negative parenting behaviors such as less smiling, low emotional responsiveness, less nurturing involvement, more unsupportive responses, more authoritarian behaviors, and frequent use of physical punishment, which, in turn, are often associated with adverse child outcomes [8, 26–30]. For example, Shaffer et al. [8] found that maternal emotion socialization practices mediated the relation between family risk and emotion regulation for children ages 7 to 12. Specifically, greater family risk was associated with higher levels of child emotion dysregulation and lower levels of emotion regulation through its effects on mothers' unsupportive responses to their children's negative emotional expressions [8]. In sum, by influencing parenting behaviors, family risk is likely to negatively impact children's emotional development.

Maternal PA is one parenting behavior that may serve as a mediator in the specific relation between family risk and child PA. Importantly, parental modeling of emotions is a primary way for children to learn about emotions [31–33]. During the preschool period, when children are still heavily reliant on their caregivers for external support, mothers serve as important emotion socialization agents (e.g., [34]). With regard to PA specifically, mothers' PA has been found to be positively associated with their children's PA at several points throughout development, including the preschool period [7, 35], therefore suggesting potential modeling effects. While research also indicates genetic factors can interact with parenting behaviors to predict child PA [36], the present study will focus on the role of maternal displays of PA to gain a better sense of how maternal modeling of emotions specifically is involved in the relation between family risk and child PA. Multiple family risk factors, particularly when experienced simultaneously, may increase the likelihood that

mothers will display low levels of PA. From a social learning perspective [37], by observing mothers' low PA, children may learn to adopt a similar affective style. In fact, longitudinal work has indicated that mothers' expressed PA predicts their offsprings' later displays of PA (e.g., [38]).

It is important to distinguish the role of maternal PA from the potential impact of maternal depression in the link between family risk and child PA. Low PA is a cardinal feature of depression (e.g., [39]) and research has demonstrated that depressed mothers and their offspring exhibit lower PA than nondepressed mother-child dyads during interactions with one another as early as the first year of life [40, 41]. Furthermore, children of mothers with a history of depression have been found to express lower levels of PA from late infancy through age 9 compared to children whose mothers had never experienced a major psychiatric disorder [5]. Taken together, it is likely that exposure to depressed mothers' low levels of PA specifically put children at increased risk for developing low PA. While some research has considered the contributions of both maternal PA and depression to child PA [5], the unique influence of maternal PA on child PA is often not clearly parsed apart from the impact of maternal depression in the extant literature. Thus, the present study sought to demonstrate that exposure to low maternal PA serves as the mechanism linking family risk to child PA difficulties, beyond potential contributions of maternal depression symptoms.

The Current Study

The present study sought to empirically test a component of the transactional model of child PA [4] by investigating the role of family risk in preschoolers' PA via its effects on maternal PA. This study relied on multiple indices of family risk, making it the first known study to examine the relation between an accumulation of family risk factors and preschoolers' observed PA. Given that contextual risk factors tend to cluster together [25] and no single risk factor is likely to completely account for low child PA, it is important to understand how multiple factors in tandem can confer risk for preschoolers' PA difficulties. Furthermore, because child PA plays a central role in both adaptive and maladaptive development [42, 43], understanding factors that contribute to low PA early in childhood is important for advancing conceptual models of young children's PA development and, subsequently, for identifying targets for prevention and intervention efforts. This study relied on observational measures of mother and child PA during a task that reflected a typical parent-child interaction in the preschool period. A community sample of racially and economically diverse preschoolers and their mothers was included, thus showing how the processes of interest unfold in families from a variety of backgrounds. Including a diverse sample also likely increased the chances that families experienced multiple risk factors. Based on the extant literature, we developed the following hypotheses:

- a. Greater family risk would be associated with lower levels of child PA.
- b. Maternal PA would partially mediate the negative association between family risk and child PA while controlling for maternal depression symptoms.

Method

Participants

Participants included 82 mothers ($M = 31.25$ years, $SD = 6.16$) and their preschool-aged children ($M = 3.51$ years, $SD = .49$, 63.00% boys) who were recruited through fliers posted at local businesses and Head Start centers (i.e., facilities that provide educational services to children from low-income families). This sample was part of a larger study that included genetics data collection and, therefore, only biological mothers and their children were included. One child and five mothers did not indicate their age and information on the sex of one child was missing. The study required that mothers and children were fluent in English. Exclusion criteria included pregnancy and/or child developmental disabilities that could hinder participation. Pregnancy was part of the exclusion criteria given that the larger assessment battery included physiological assessment, which can be influenced by pregnancy.

The sample was economically and racially diverse. In total, 48.80% of the sample indicated they were Caucasian; 41.50% of the mothers identified as Black; 4.90% were Hispanic; and 4.90% identified as “other.” About half of the families (48.80%) had a total household income of less than \$30,000; 17.10% were between \$30,000 and \$49,999; 8.50% were between \$50,000 and \$69,999; and 25.60% had a total income above \$70,000. All family income values were reported in U.S. dollars. Half (50.00%) of mothers reported they were currently married; 36.60% indicated they had never been married; and 13.40% were separated, divorced, widowed, or engaged. With regard to mothers’ education levels, 23.20% of women reported they had graduate school training; 29.30% were college graduates; 23.20% had some college training; 22.00% had their high school diploma, General Educational Development (GED) certificate (i.e., an educational credential equivalent to a high school diploma), or less; and 2.40% described their education as “other.”

Procedures

All data collection was completed in a psychology laboratory at a university in the Southeastern United States. First, research assistants conducted phone screenings with each mother and if she and her child were eligible for the study, the mother received a packet of measures in the mail to fill out and bring to the lab visit. Incomplete measures were filled out on the day of the lab visit. At the beginning of the visit, mothers provided consent as well as permission for their child to participate and children provided assent. Mothers and children participated in a series of behavioral observation tasks, all of which were video-recorded. The present study relied on data from the Etch-a-Sketch interaction task, which required the dyad to collaboratively draw a picture of a house using an Etch-a-Sketch in 4 minutes. The Etch-a-Sketch task was chosen for this particular study because it allowed for the observation of PA when mothers and children were directly interacting with one another. For this task, a research assistant told the mother and child to each use a separate knob of the Etch-a-Sketch to work together to draw the house as quickly as possible. All families were told that if they completed the task before the time was up, they would win a prize. For participating in the study, mothers were compensated \$100 and children chose a small prize.

All study procedures were in accordance with the sponsoring university's Institutional Review Board.

Measures

The family risk score was calculated using variables that are known to confer risk (single parent status, GED/high school diploma or less educational attainment, and economic disadvantage) and was similar to composites that have been created in previous research (e.g., [8, 44]). Information for the family risk composite was gathered from mothers' reports on a demographics questionnaire. For each of the three demographics variables (marital status, household income, and maternal education level), families received a score of "1" if they were considered "high risk" for that specific item. Single status (i.e., neither married nor engaged), total household income less than \$30,000, and maternal education level of high school diploma/GED or less were all considered "high risk." The family risk composite had a range of 0 to 3, with 3 corresponding to the highest level of risk. In order to receive a risk score, mothers were required to have complete data for each of the three types of risk.

The videotaped Etch-a-Sketch segments were coded independently for maternal PA by a trained research assistant. The maternal PA coding scheme captured the mother's expressed pleasure and contentment as displayed through animation, smiling, laughter, body posture, and/or tone of voice. Each mother was assigned a score on a 7-point Likert scale from 1 (no positive affect) to 7 (very high positive affect), based on her overall positive affect for the video clip. High scores on this scale reflected higher frequency and quality positive affect whereas low scores on this scale reflected a lack of overt positive emotion. For instance, a "6" was assigned for a mother who showed pleasure and enjoyment for the majority of the task; the mother may have laughed a few times during the session and smiled throughout much of the task. Alternatively, a "2" was assigned for a mother who showed brief, sporadic signs of positive affect that lacked genuine joy. To establish inter-rater reliability, a subset of 20 families was coded independently by a second trained research assistant. Based on a Pearson bivariate correlation, reliability was $r = .94$ for the two coders. The maternal PA behaviors coded in the present study were similar to those included in global PA coding schemes that have been implemented in the extant literature (e.g., [45–47]).

Coding for child PA followed the same procedures as those used for maternal PA. Children who were rated highly on this 7-point scale exhibited clear, overt displays of PA (e.g., smiling and laughing) nearly the entire segment, even showing signs of enjoyment at difficult points in the task. Alternatively, children who received lower scores for PA may have displayed some signs of pleasure on rare occasions that lacked "true joy," or, they may have even shown no signs of PA (i.e., they appeared negative or simply flat throughout the interaction). Reliability for the two independent coders was $r = .96$. The child PA code largely resembled PA coding scales used in previous research (e.g., [12, 48]).

The Symptom Checklist-90-Revised (SCL-90-R) [49] is a 90-item self-report measure, which was used to assess mothers' current levels of depression symptoms for the mediation analyses. Mothers reported on their psychological distress using a 5-point Likert scale (0 = *not at all*, 4 = *extremely*). This study relied on raw scores for the Depression dimension (13 items); higher scores represented higher levels of depression symptoms. In the present

sample, 13.30% of mothers scored in the at-risk (T score of 65–69) or clinical ranges (T scores greater than 70) for the Depression dimension. The reliability and validity of the SCL-90-R has been previously established [49] and Cronbach's alpha for the present study was .88 for the Depression dimension.

Missing Data

In total, 86 dyads out of a full sample of 100 total dyads could be coded for PA. Of those 86 dyads, 82 had information to compute the family risk composite (i.e., four families were missing information needed to create this variable. Thus, a total of 82 mother-child dyads had adequate data to be included in the mediation models. With regard to the PA codes, missing data for these variables resulted from technological difficulties with videotaping the Etch-a-Sketch task, an inability to see the mother and/or child's faces for at least 50% of the segment, protocol deviations (e.g., a sibling showed up to the assessment and sat at the table with the participating mother-child dyad), or failure of the dyad to participate in the Etch-a-Sketch task. Based on a series of independent samples t -tests, the means for the main study variables and all demographic characteristics (e.g., mother and child age, maternal race, etc.) did not significantly differ between those dyads with and without PA codes.

Analytic Plan

Pearson bivariate correlations were run between each of the study variables.

To test for mediation, the publicly-available PROCESS SPSS macro plug-in (<http://afhayes.com/introduction-to-mediation-moderation-and-conditional-process-analysis.html>) was used [50]. Though the Baron and Kenny [51] method for testing mediation has been widely used, there are many advantages to the methods implemented in PROCESS. For example, while the Baron and Kenny procedure will show whether there is a significant mediator or not, the methods used in the PROCESS macro will not only indicate the presence or absence of a significant mediator, but will also yield an estimate of the magnitude of the indirect effect [50]. The macro plug-in also relies on bootstrapping to estimate the standard error of the indirect effect and this procedure requires fewer subjects than the Baron and Kenny method to find a mediated effect of the same magnitude [52]. Mediation was evident when the 95% confidence interval for the indirect effect did not include zero. Bootstrap resamples of 5,000 at 95% bias-corrected confidence intervals were used. Hayes [50] recommends such bootstrapping methods, particularly when running analyses with small sample sizes, in order to account for potential violations of the assumptions of the normal distribution.

Results

First, Pearson bivariate correlations were run between each of the study variables. The correlations and descriptive statistics are presented in Table 1. In support of the first hypothesis, family risk was significantly, negatively correlated with child PA.

When maternal PA was examined as a mediator of the relation between family risk and child PA, mothers' race was not a significant covariate in the mediation model and thus the following mediation analyses are presented without this covariate. To control for the

potential influence of maternal depression symptoms, the SCL-90-R Depression dimension was entered as a covariate in this mediation model.

In support of our second hypothesis, the indirect effect of family risk on child PA through maternal PA was significant, even after controlling for maternal depression symptoms in the model, $b_{boot} = -.22$, $SE_{boot} = .08$, 95% CI $[-.42, -.09]$. The negative indirect effect indicated that higher family risk predicted lower maternal PA and, in turn, lower child PA.

To further bolster our results, we ran a mediation model with maternal depression symptoms as the mediator to ensure that the indirect effect was in fact due to maternal PA specifically. The indirect effect when maternal depression symptoms was the mediator was not significant, $b_{boot} = .01$, $SE_{boot} = .03$, 95% CI $[-.02, .13]$, thus providing additional support for the fact that maternal PA plays a particularly important role in the relation between family risk and child PA, beyond potential contributions of maternal depression symptoms.

Discussion

Child PA has been implicated in a diverse array of outcomes spanning social, cognitive, and psychological domains, among others [4]. Consequently, the identification of factors that influence child PA is important for further specifying developmental models of child PA, and, in turn, informing prevention and intervention efforts. This study provides a substantive contribution to the extant literature by documenting ways that family risk and maternal expressions of PA relate to child PA in the preschool period. In particular, results supported study hypotheses – family risk related to child PA through its effects on maternal PA. The results of the study were bolstered by documenting that the findings held when controlling for mothers' depression symptoms. Moreover, the results yielded a non-significant indirect effect when mothers' depression was entered as the mediator, as well as a non-significant bivariate correlation between maternal depression symptoms and child PA. Undoubtedly, maternal symptoms of depression can have profound effects on youth socioemotional development broadly, and PA specifically, particularly early in development [40, 41, 53–56]. However, the results here suggest that, at least in diverse community samples, mothers' lack of PA expressions may be most closely related to child PA during the preschool period. In turn, prevention efforts aimed at increasing maternal PA prior to the point at which mothers develop high levels of depressive symptomatology are likely to be particularly crucial for promoting young children's psychosocial adjustment. Nonetheless, given that the majority of mothers in this study were experiencing subclinical levels of depression, it will be important for the present hypotheses to be examined in a clinical population. It is likely that there are differences in the way PA functions in the context of clinical levels of depression versus a community sample.

Though some empirical work has demonstrated links between family risk and child PA [21], other research has failed to find such a link [23]. The lack of bivariate relations suggests that, at least for some youth, the path is indirect and a consideration of other variables is needed. Accordingly, in this study, family risk was directly related to child PA at the bivariate level initially, but this direct relation was significantly reduced once the indirect effect through maternal PA was accounted for in the mediation model. The family stress model [27], and

related research, suggests that family risk factors are associated with maladaptive parenting behaviors, such as the use of an authoritarian parenting style, low levels of emotional responsiveness, and even the use of corporal punishment [8, 26, 27, 28 30]. Low levels of expressed PA most certainly co-occur with all of these undesirable parenting behaviors. Yet, programs designed to prevent or address emotional and behavioral problems in young children, and that include a parenting component, often focus much more attention on decreasing high levels of parental and/or child negative affect and teaching non-punitive discipline strategies rather than on increasing parental PA (e.g., [57, 58]). Importantly, some interventions meant to increase sensitive parenting include skills for enhancing parents' positivity toward their children (e.g., [59]). Results from the present study suggest that an even greater focus on targeting maternal displays of PA directly in prevention and intervention efforts may be warranted, particularly for at-risk families.

Other research likewise supports the notion of an increased focus on maternal PA. The exchange of balanced displays of PA is a hallmark of quality parent-child relationships that facilitates adaptive outcomes [60]. For instance Kochanska and colleagues [61, 62] have shown across a variety of studies that the coordinated exchange of PA in preschoolers and their mothers is a key component of a mutually responsive orientation, which reflects a positive, reciprocal interaction where partners are in tune with each other behaviorally and emotionally. Importantly, mutually responsive orientation predicts a host of positive outcomes, including self-regulation and internalization of moral standards, among others. Thus, low maternal PA may be one key mechanism to consider in prevention and intervention planning that may have a broad impact on children's socioemotional adaptation.

This research adds to the growing body of theoretical and empirical work that calls for a greater emphasis on positive emotions more broadly and specifically with regard to youth's emotional development [4, 11, 12, 63]. Nonetheless, limitations are noted. The cross-sectional design precluded causal inferences. There are bidirectional relations between mother and child expressions of positive affect [60, 64] and future work using larger sample sizes and a longitudinal design can assess these. Longitudinal work will be particularly important given that positive emotions have been linked to a variety of youth outcomes, both adaptive and maladaptive [9–11, 17, 18]. Studying the relations between family risk factors, child PA, and other indices of psychosocial functioning over time will be critical for elucidating processes of multifinality. It is likely that family risk and child PA vary in their relations with important developmental outcomes, not only based on the levels of family risk and PA, but also depending on the type of outcome assessed. While symptoms of maternal depression were accounted for in the present analyses, it is unknown whether the findings would apply within a clinical sample. Additionally, emotion is multi-faceted and accordingly, should be assessed at multiple levels.

Despite these limitations, this study advances knowledge of family factors that are implicated in children's PA and, therefore, the present results can aid in expanding current conceptual models of emotional development in youth. In particular, these findings help in starting to clarify contextual factors from the transactional model of child PA [4] that are especially pertinent to PA development in the preschool period. A greater understanding of the risk processes pertinent to maladaptive PA development can also aid in the early

identification of children who are at high risk for developing PA difficulties and, in turn, for experiencing a host of other maladaptive outcomes. As a result, researchers will be able to devise prevention and intervention strategies for enhancing young children's PA and, therefore, for improving youth psychosocial functioning more broadly.

Summary

This study examined the contributions of family risk and maternal displays of PA to young children's PA expressions during the preschool period. Family risk was assessed using items from maternal reports on a demographics questionnaire and maternal and child PA codes were derived from behavioral observations of a mother-child interaction task. Results indicated that family risk was significantly, negatively correlated with child PA. Furthermore, mediation analyses demonstrated that the relation between family risk and child PA was mediated by maternal PA, even after statistically controlling for maternal depression symptoms. Therefore, greater family risk was associated with lower levels of maternal PA and, in turn, lower child PA. These findings help to elucidate both distal (e.g., total income, maternal education level, marital status) and proximal (e.g., maternal PA) risk factors that are implicated in preschoolers' PA and, therefore, results from this study can aid in extending current conceptual models of youth emotional development. Moreover, by identifying risk factors for preschoolers' PA difficulties, this study can inform prevention and intervention efforts for enhancing young children's PA and, as a result, their overall psychosocial adjustment.

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Table 1

Intercorrelations and Descriptive Statistics

Variable	1	2	3	4	M (SD)	Range
1. Family Risk	—	-.34**	-.22*	.13	1.21 (1.18)	0–3
2. Maternal PA		—	.45**	.02	4.05 (1.70)	1–7
3. Child PA			—	.03	3.50 (1.76)	1–7
4. Maternal Depression Symptoms				—	.59 (.61)	0–3.62

**
 $p < 0.01$.

*
 $p < 0.05$.

Table 2

Mediation Analyses With Maternal PA (N = 82) and Maternal Depression Symptoms (N = 82) as the Mediators

	Path A (b, SE)	Path B (b, SE)	Path C (b, SE)	Path C' (b, SE)	Mediated Effect (AXB) (b, SE)	95% CI for Mediated Effect
Risk— Maternal PA—Child PA	-.49 (.15) *	.44 (0.11) *	-.34 (.16) *	-.12 (.16)	-.22 (.08) *	-.42, -.09
Risk— Maternal Depression Symptoms— Child PA	.07 (.06)	.17 (.32)	-.33 (.16) *	-.34 (.16) *	.01 (.03)	-.02, .13

Note. All path coefficients are unstandardized. Path A = effect of family risk on mediator. Path B = effect of mediator on child PA controlling for family risk. Path C = total effect. Path C' = direct effect of family risk on child PA. The first mediation model includes maternal depression symptoms as a covariate.

* path is significant at $p < 0.05$.