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THE RELATIONSHIP BETWEEN EXPOSURE
TO INTIMATE PARTNER VIOLENCE,
BEHAVIOR PROBLEMS AND WEIGHT STATUS
IN PRESCHOOL AGE CHILDREN
IN HEAD START PROGRAMS

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ABSTRACT

Intimate Partner Violence (IPV) is a growing public health concern disproportionately affecting children and their families. Researchers have reported that of 85-90% of children who have witnessed IPV that occurs in the home, 47% of those are under the age of six (Graham-Bermann & Perkins, (2010). Surprisingly, few studies have explored the effects of IPV in preschool-age children. This study examined the relationship between maternal reports of exposure to IPV and preschool-age children's behavior and physical health, particularly obesity. Participants consisted of 100, predominantly African American (92%) primary care givers of children enrolled in Head Start programs in the city of Detroit. The purpose of this study is to: (1) describe the level of potential IPV in the homes of primary caregivers with a child in Head Start, and (2) to examine the relationship between IPV and preschool-age children's behavioral problems and obesity, so that programs may be developed to better serve preschool-age IPV survivors and their families. There are two hypotheses for this study: (1) Primary caregivers who report incidents of IPV will also report more internalizing and externalizing behavioral problems in their preschool-age children, and (2) primary caregivers who report incidents of IPV will have children with higher BMIs compared to children whose mothers did not report incidents of IPV.

INTRODUCTION

Intimate Partner Violence (IPV) has become a public health concern due to an increasing number of children residing in homes where this violence occurs. Ybarra, Wilkens, and Lieberman (2007) estimated that about 7-14 million children in the United States are witnesses to IPV. Graham-Bermann and Perkins (2010) found that out of the 85-90% of children who witness IPV that occurs in the home, 47% of those are reported to be under the age of six. Despite the wealth of research on IPV, little has focused on preschool-aged children.

IPV has been associated with school-age behavior problems, however research indicates contradictory findings among the effects on behavior of preschool-age children. Morrel et al. (2009) and Martin and Clements (2002) found that IPV exposure is related to externalizing behavior problems in preschool-age children. On the other hand, Holmes (2014), McFarlon, Groff, O'Brien, and Watson (2003), and Ybarra, Wilkens, and Lieberman, (2007) found externalizing behavior problems in school-aged children but not preschool-aged children. These contradictory findings suggest that IPV has a negative long-term effect on child's development that is delayed until later in the child's life.

IPV may have a detrimental effect on children's physical health that researchers suggest have two common factors: maternal mental health and socioeconomic status (SES) (Suglia, Duarte, Chambers & Boynton-Jarrett, 2012). These factors contribute to behavior problems and childhood obesity (Holmes, 2013). Current studies that examined the relationship between IPV and childhood obesity found that mothers who reported incidents of IPV were more likely to have obese children at age five (Boynton-Jarrett et al., 2010; Suglia et al., 2012). These findings suggested that exposure to IPV in preschool-age children is associated with a higher risks of obesity.

Although IPV can occur at any age and in all racial and ethnic backgrounds, Tjaden and Thoennes (2000) suggested that young children of racial minorities experience more IPV inci-

dents than the general population. Future research examining the effects of IPV on preschool-age children's behavior problems and physical health, particularly obesity, is needed. This can help implement programs to better serve preschool-age children and their families.

There is still a lot to be learned about IPV in relation to behavior problems and physical health in preschool-age children. This study examined the relationship of IPV, preschool-age children's behavior and physical health, particularly obesity, based on the primary caregivers self-reports; the participants were primarily African American and of low SES. It is expected that mothers who report IPV will also report more child internalizing and externalizing behavior problems, and children with maternal reports of IPV will have higher body mass index (BMI). The long-term goal of this study is to expand research on influences that affect the mental health of minority populations, primarily preschool-age children, to create early interventions that help lessen mental health disparities among minority populations.

LITERATURE REVIEW

IPV Definition and Prevalence

The Centers for Disease Control and Protection (CDC) (2006) define intimate partner violence (IPV) as "physical, sexual, and emotional abuse between dating, or married partners, either in existing or past relationship, occurring along a continuum from a single episode of violence to ongoing abuse" (as cited by Howell, 2011 p.563). One public health concern is its effect on children living in homes where it occurs.

McDonald et al. (2006) found that IPV occurs more frequently between couples living in the same home, and estimated that 15.5 million American children resided in IPV households. Similarly, a study by Fusco and Fantuzzo (2007) found that 43% of all IPV incidents occurred in homes where children lived. These findings suggest that children living in these homes had a higher risk of witnessing IPV. Fusco and Fantuzzo (2009) found that children living in IPV homes are more likely to be under the

age of five. Even more alarming, findings by Jarvis, Gordon, and Novaco (2005) showed that children as young as 3 years old were witnesses of IPV. Although children of all ages are at risk of being affected by IPV, preschool-age children are more vulnerable (Martin & Clements, 2002; Fantuzzo & Fusco, 2007). In spite of the wealth of research on IPV, a limited number of studies have focused on its affect on preschool-age children.

Margolin & Gordis (2000) proposed that preschool age children are especially distressed by IPV because they spend the majority of their time with parents, and they rely on parental figures to make them feel safe and protected by providing them with a safe living environment (As cited in Howell, 2011 p.563). Martin and Clements (2002) write, “given that preschool age children depend on parental support during emotionally challenging situations, their sensitivity to IPV may be particularly salient and detrimental” (p.233). Thus, early exposure to IPV has detrimental effects on child development (Perkins & Graham-Bermann, (2012).

Childhood is a time of neural plasticity, therefore being exposed to IPV can disrupt the process of normal child development; Perkins and Graham-Bermann (2012) suggested that a disruption of stress-related functions and regions of the brain that control emotions could lead to insufficiency in self-regulation processing. According to Kim and Cicchetti (2009), self-regulation consists of the development of behaviors needed to help us adapt to our environment; therefore, this process is necessary for positive behavior and physical health in children.

IPV can occur in different racial and ethnic backgrounds, however, Tjaden and Thoennes (2000) found that minorities, particularly African Americans, experience more incidents of IPV. Evans and Kim (2010) write that, “minority children residing in low socioeconomic status (SES) households are more at risk of experiencing a variety of environmental and social factors compared to the majority white population”(as cited in Suglia et al. 2010 p. 1174). Through this literature review, I show the importance of investigating the effects of IPV on low SES, African American preschool-age children.

IPV and Childhood Behavior Problems

McFarlane et al. write (2003):

“Julie, age 10, was at a friend’s house when her mother was beaten and stabbed. Julie heard sirens and ran home. Paul and Mark, ages 2 and 6, were in their bedroom, where they had been carried by their father and the door had been locked. They listened as their mother screamed for help. Mark squeezed through the bedroom window and ran outside to find older sister Julie. Julie and Mark arrived back at the house to watch their father purposely cut himself with the same knife used to stab their mother and listened to him explain to the police minutes later how he was hurt defending himself from his wife. Six months later, none of the children had received counseling. Julie stopped playing soccer and associating with friends. Mark began to hit and kick other children at school, and Paul had stopped talking and refuses to leave his mother’s side” (p. 203).

The case study above illustrated an extreme event of IPV that lead to behavior problems in three children who were exposed to the tragic event. Children who witness IPV aimed at their mother are at higher risk of developing behavior problems (McFarlane et al., 2003). IPV is a public health concern disproportionately affecting children residing in homes where it occurs (Ybarra et al., 2007). Despite the extended research on IPV, the majority has focused on school age children; therefore, future studies are needed to investigate the effects of IPV on preschool-age children’s behavior.

Few studies have examined the effects of IPV on preschool-age children’s behavior problems. Furthermore, the research done has contradictory findings, as explained above, on the effects of IPV exposure on externalizing (“aggression, misconduct, delinquency, bullying”), and internalizing behaviors

(“anxiety, depression, somatic complaints, eating too much, or too little”), in preschool-age children (McFarlane et al., 2003 p. 203). Ybarra et al. (2007) conducted a study examining the relationship between domestic violence and behavior problems in a sample of 62, exposed and non-exposed, 3 to 5 year old preschool-age children. They found IPV exposed preschool-age children showed higher internalizing behavior problems, than externalizing behavior problems. The McFarlane et al. (2003) study on school-age children found that a sample of 6 to 8 year old children, whose mothers reported incidents of IPV, had more externalizing behavior problems as compared to those of non-abused mothers. However, no similar findings were shown in younger children of victimized mothers.

Holmes (2013) suggests that a possible explanation for the different findings in externalizing behavior problems between preschool-age and school-age children could be that the early effects of IPV exposure are delayed until children spend more time interacting with peers in school and less time at home (p.7). Holmes also found that children exposed to IPV before the age of 3 years old showed no behavior differences compared to those of children not exposed. However, children with frequent exposure to IPV between birth and age 3 exhibited more externalizing behavioral problems, such as aggression, by age eight (Holmes, 2013). This seems to indicate that the negative effects caused by the exposure to IPV vary, depending on the developmental stage of the child when such events occur. Differences in ethnicity were found in regards to child aggressive behavior; at age three, African American children showed less aggressive behavior compared to white children; these findings suggest that ethnicity plays an important role in children’s behavior over time (Homes, 2013 p.2)

The negative effects of IPV may vary depending on the age and frequency at which the violence occurs (Holmes, 2013). For example, Holmes (2013) suggests that “children who experience more frequent IPV at an early age have shown less aggressive behavior compared to those who were never exposed, because they may fear being the victim of physical assault, as a result, these children might have adapted to living in a violent home

environment” (p. 2). Howell (2011) found that young children residing in violent homes might experience feelings of depression, anxiety and helplessness; therefore they depend on parents, especially mothers, for protection and support (p. 563). Unlike older children, younger children are not able to make sense of the events that happen around them and they have not yet developed the skills to cope with such events (Graham-Bermann & Perkins, 2010). In addition, because preschool-age children require more supervision from parents compared to older children, they may not be able to avoid incidents of IPV (Martin & Clements, 2002).

Although many researchers found a relationship between exposure to IPV and externalizing behavior problems in school-age children and not preschool-age children (Holmes, 2008; McFarlane et al., 2002; Ybarra et al., 2007), other research studies indicate otherwise. Morrel, Dubowitz, Kerr, and Black (2003) conducted a study of 206, predominantly African American children of low SES, between the ages of 4 and 6 years old and found that mothers with a history of IPV reported more internalizing and externalizing behavior problems in their children. Consistent with the previous research, a study by Martin and Clements (2002) found that 4 year-old children exposed to “marital physical aggression” or IPV toward the mother exhibited more uncontrolled externalizing behavior problems (p. 241).

Maternal mental health has been found to mediate the relationship between IPV and childhood behavior problems (Holmes, 2013; Miranda, De la Osa, Granero, & Ezpelta, 2013; Morrel et al., 2003). Miranda et al. (2013) suggest that mothers who were victims of IPV were still capable of engaging in positive parenting, however, mood fluctuations could have a negative effect on their children’s behavior and health (p.53). Researchers have found that maternal depression mediated the affect of IPV and internalizing and externalizing behavior problems in preschool-age children (Morrel et al., 2003). The study by Miranda et al. (2013) found that maternal history of IPV was associated with young children’s externalizing behavior problems but not internalizing behavior problems. These findings also support the findings of earlier studies (Morrel et al., 2003) that identified

maternal depression as a major influence affecting preschool-age children's externalizing behavior problems. In addition, Holmes (2013) found that maternal mental health was an important mediating factor in the relationship between exposure to IPV and externalizing behavior problems in young children. Further research should focus on the establishment of family interventions focusing on the mental health of primary caregivers, especially minority populations.

Researchers hypothesize that children's externalizing behavioral problems serve as a coping mechanism against maternal IPV, which may result in an increase of both sensitivity and reactivity to conflict and anger (Martin & Clements, 2002). Still, despite the profuse amount of existing research examining behavioral problems among children (Holmes, 2013), aggressive behavior problems related to IPV need to be further examined in preschool-age children. The current study contributes to the expansion of literature examining the association between both behavioral problems and childhood obesity, as related to exposure to IPV in a community sample of preschool-age children. In spite of the excess amount of research on childhood obesity, only a few studies have examined the relationship between IPV and obesity in preschool-age children.

IPV and Childhood Obesity

The Centers for Disease Control and Prevention (CDC) (2009), state that the rapid increase in childhood obesity has become a major public health concern in the United States. Banning (2005) defines obesity as "excess fat in the body caused by ingestion of greater amounts of food than can be utilized by the body as energy; and there is an imbalance between the amount of food consumed and exercise taken on a daily basis" (as cited in Haung, Yang, and Omaye, 2011, p. 1086). Factors such as overeating and decreases in physical activity are obvious causes for obesity; however, there are others that are less evident.

In a review summarizing previous studies on IPV, obesity, and depression, Haung et al. (2011) explored the relationship and found that obesity and IPV were indirectly related by depression.

They found that behavioral changes, such as depression, were major in the relationship between IPV and obesity. Furthermore, children who were victims, or exposed to violence would over-eat and lacked physical activity caused by depression (Haung et al., 2011). Lamers-Winkelman, De Schipper & Oosterman (2012) found that of the 275 child witnesses of IPV, children exposed to IPV were more obese compared to children who were not exposed, and their mothers reported more somatic complaints, such as eating and sleeping problems and pain.

Boynton-Jarrett et al. (2010) examined the association between maternal IPV and obesity in a subsample of 1,595 preschool-age children from the Fragile Families and Child Well-being Study in several large cities in the United States. Their results showed that among the “49.4% of mothers who reported incidents of IPV, 16.5% of their children were obese at age 5 years” (p. 540). In a follow-up study, Suglia, Cristiane, Duarte, Chambers and Bynton-Jarrett (2012) investigated the influence of multiple social risk factors such as maternal mental health, SES and IPV, and found similar findings; “57% of the children had experienced at least one social factor and 17% of the children were obese by age 5 years” (p. 1173). Winkelman, Schipper, and Oostermann (2012) examined the physical health complaints of preschool-aged children after being exposed to IPV and found that exposed preschool-age children were significantly more obese. The findings cited above suggest that children exposed to IPV may be at a higher risk of childhood obesity.

A child’s first years of life are critical for the development of self-regulation (Suglia et al., 2012). To illustrate, a study by Graziano, Calkins, & Keane (2010) showed that low self-regulation and higher reward sensitivity among young children were associated with obesity at the age of five. Suglia et al. (2012) suggested that children with an increase of reward sensitivity might be more impulsive eaters and request more flavorsome, unhealthy foods, compared to bland healthy foods. These findings indicate that young children who have trouble reaching satiety also exhibit poor self-regulation (Graziano et al., 2010). In conclusion, research suggests that development of self-regulation in young

children could be altered by stressful home environments (Suglia et al., 2012).

Research has shown that children of low SES disproportionately suffer from physical and developmental health disparities as a consequence of living in poverty (Graziano et al., 2010). Children living in low SES households are more likely to experience a variety of food insecurities that have also been linked to childhood obesity (Suglia et al., 2012). Boynton-Jarrett et al. (2010) write that young children who witness IPV were more emotionally distressed; they therefore used food to cope with their negative emotions. Surprisingly, few studies have examined the relationship between maternal mental health, parental feeding practices, and obesity among preschool-age children.

Researchers hypothesized that children exposed to IPV overeat as a way to cope with stressful events, or their parents use food as a tool to console their children (Boynton-Jarrett, 2010). Furthermore, Suglia et al. (2012) suggest that early child stressors lead to childhood obesity and reflect parenting behaviors such as “lack of parental availability, providing poor nutritional foods, and not engaging in physical activity” (p.1177). Ramasubramanian, Lane, and Rahman (2011) indicated that maternal mental health problems, such as depression, could affect mothers’ feeding practices, leading to a decrease in their motivation to offer healthy food and physical activity to their children. In a recent study, Ramasubramanian et al. (2011) found that mothers who reported more psychological distress were also more likely to have an obese three year-old child, compared to mothers who did not report symptoms of psychological distress. Researchers suggest that these findings imply that during times of distress, mothers may use poor food choices as a way to cope; as a result, the mother may create an atmosphere in which the child is influenced to model the same feeding practices.

Present Study

The negative effects on children exposed to IPV have been linked to childhood behavior problems and childhood obesi-

ty. It is possible that maternal exposure to IPV leads to behavioral problems, and a higher BMI in preschool-aged children. The CDC (2009) has reported that minorities, especially those of low-socio-economic status (SES), are particularly vulnerable to the exposure of IPV and are disproportionately at risk for chronic conditions, obesity, and behavior problems.

The purpose of this study is to: (1) describe the level of potential IPV in the homes of primary caregivers with a child in Head Start, and (2) to examine the relationship between IPV and preschool-age children's behavioral problems and obesity, so that programs may be developed to better serve preschool-age children and their families. There are two hypotheses for this study: (1) Primary caregivers who report incidents of IPV will also report more internalizing and externalizing behavior problems in their preschool-age children, and (2) primary caregivers who report incidents of IPV will have children with higher BMIs, compared to children whose mothers did not report incidents of IPV.

The long-term goal of the present study is to expand research on influences that affect the mental health of minority populations, primarily preschool-age children. This research hopes to contribute to the establishment of early interventions to decrease mental health disparities among minority populations.

METHODOLOGY

Participants

The sample consisted of 100 mothers of preschool age children enrolled in a Head Start program in the city of Detroit. The mothers' mean age was 29 years ($SD=7.7$) and the children were between the ages of 3 to 5 years old, with a mean age of 49 months ($SD = 9.2$). Among the 100 children, 53% were girls and 47% were boys. The mothers and their children were predominantly African American (92%). Of the one hundred mothers who participated, 61% had a high school education and 33% had a college education, or higher. Sixty-two percent of participants were single, 20% were married, 14% were single living with partner, and 2% were divorced.

Procedures

The primary site for this project was a Head Start program in the city of Detroit. The participants for this study were mothers or female primary caregivers of children enrolled in Head Start. A convenience sample of 100 participants was recruited. Participants were included on a volunteer basis and were directly solicited to participate at Detroit Head Start monthly parent meetings, at drop off or pick up times, or at other Head Start functions. Mothers completed an informed consent form that was explained verbally by the researcher, and was read by the participant. The participant's voluntary participation and ability to withdraw from the study at any time without negative consequences was clearly communicated through the informed consent process. Following the consent process, participants completed a self-report survey that asked questions about themselves and their child in Head Start. The survey took approximately 30 minutes to complete and were completed in private meeting rooms. Upon completion of the surveys, mothers were each compensated with a total of \$10 in cash for their participation. Permission to collect data at their centers was granted by United Children Family Head Start (UCFHS), and the Institutional Revision Board (IRB) at Eastern Michigan University granted Human Subject Approval.

Measures

Demographics: A measure to assess demographic information on each mother and child was administered. The demographic questionnaire was developed by the principal investigator for this study, and collected data such as the mother and child's age, race, the child's gender and the mother's educational level.

Intimate Partner Violence (IPV): The Revised Conflict Tactics Scale (CTS2), (Straus et al. 1996) was used to assess exposure to intimate partner violence (IPV). This scale contains 78 items that query respondents about conflict activities that they, themselves, or their partner may have engaged in over the past year. Participants answered how many times each behavior occurred in the past twelve months on a scale from "never," to "more

than 20 times.” Participants can also indicate if the behavior did not occur during the last year, but occurred earlier. From the participant’s responses to individual items, multiple subscales were calculated. Subscales include: *physical assault, psychological aggression, injury, sexual coercion, and reasoning/negotiation*. For the purposes of the present study, the *negotiation* scale was not examined, because it does not reflect IPV behavior. Scoring on each subscale is calculated such that higher scores indicate more frequent exposure to IPV behavior. Responses of “never,” or “once or twice” are given a score of 0, 1, and 2, respectively. Responses of “3-5 times” are given a score of 4. Responses of “6-10 times” receive a score of 8, and responses of “11-20 times” are given a response of 15. Then subscale items are added to calculate a total score for each subscale. In the current study, only IPV behavior reported as having been perpetrated by the respondent’s partner was examined. Data provided by Straus (1996) suggests the CTS2 is a moderately valid and reliable measure.

Child Body Mass Index (BMI): In order to assess the current weight status of the child, height and weight were used to calculate child BMI. These data were collected by the nutrition coordinator at the Head Start locations. These measurements were taken during the school day and represented an objective measure. BMI was calculated using the following formula: (weight/(height squared))*703. Current growth charts established by the Centers for Disease Control and Prevention were used to obtain BMI percentiles for each child.

Child Behavior Problems: The Child Behavior Checklist for ages 1.5 to 5 years (CBCL: Achenbach, 1991) was used to assess child behavior problems as perceived by the mother. Mothers rated the extent to which each behavior was engaged in by the child, using a 3-point Likert scale; “not true” (coded as “0”), “somewhat or sometimes true” (coded as “1”), or “very or often true” (coded as “2”). Six subscales were derived from these ratings: *aggressive behaviors, destructive behaviors, anxious/depressed, withdrawn, sleep problems, and somatic problems*. Age normed T-scores for internalizing and externalizing behaviors were calculated, with higher scores indicating increased behavioral

problems. Achenbach (1991) reports acceptable to high reliability and validity for the CBCL. For the purposes of the current study, the T-scores for internalizing and externalizing behaviors were used.

Data Analyses

Data analyses for the current study were performed using SPSS 20.0 software. Before analyses were conducted, study variables were screened for outliers and cleaned. Descriptive statistics and bivariate correlations were run to assess study hypotheses.

RESULTS

Descriptive Analyses

To determine the level of maternal exposure to IPV, participants completed the Revised Conflict Tactic Scale (CTS2). Eighty-four participants completed the scale in full. Overall, reports of IPV in the past year were relatively low in the current sample (Table 1., below).

| CTS Subscale | No reported exposure | At least one reported exposure |
|--------------------------|----------------------|--------------------------------|
| Psychological Aggression | 32% | 68% |
| Physical Assault | 78% | 22% |
| Injury | 97% | 3% |
| Sexual Coercion | 79% | 21% |

Table 1. Participant Reports of IPV Using CTS2.

The mean number of times respondents indicated being exposed to psychological aggression by a partner was 12.53 ($SD=17.29$; range = 0-78). The mean number for physical assault by a partner was 1.66 ($SD=5.03$; range = 0-25). The mean number of times respondents indicated being injured by a partner was 0.11 ($SD=0.69$; range = 0-6). The mean number of times sexual coercion by a partner was endorsed was 2.61 ($SD=7.58$; range = 0-31). Table 1. shows the percent of participants who reported any kind of IPV behavior by subcategory. Additionally, reports of any of these experiences at any time in the past were assessed. Responses to the

CTS2 revealed that 31% (N=31) of mothers reported being victims of IPV of any kind (mild or more severe) at some point in their past.

To assess child behavior problems, participants completed the Child Behavior Checklist for ages 1.5 to 5 years old (CBCL). T scores for internalizing behaviors revealed a mean of 49.09 (*SD*=10.47; range = 29-71), and externalizing behaviors had a mean of 16.44 (*SD*=9.37; range = 28-70). Overall, the majority of parents reported their child's behavior to be within the normal range (<60). Eighty-three percent (83%) of children were rated as within the normal range for internalizing behavior, and 95% of children were rated as within the normal range for externalizing behavior.

Child BMI was assessed using child height and weight measurements. The data revealed that children had an average BMI of 16.4 (*SD*=2.3). The average BMI percentile ranking was 52nd percentile (*SD*=31.2). Based on BMI percentile rankings, 31% of children met criteria for overweight (\geq 85th percentile).

Bivariate Correlations

Correlations between maternal reported exposure to IPV, internalizing behavior and externalizing behavior, and child's BMI were assessed (see Table 2., below). Based on maternal

| | Internalizing Behaviors | Externalizing Behaviors | BMI |
|---------------------------------|--------------------------------|--------------------------------|-------------|
| CTS2 Subscale | | | |
| Psychological Aggression | .26* | .35** | -.06 |
| Physical Assault | .11 | -.04 | -.17 |
| Injury | .20[†] | .16 | -.03 |
| Sex Coercion | .19[†] | .15 | -.11 |
| Internalizing Behaviors | .78** | .78** | .11 |
| Externalizing Behaviors | .78** | .78** | .07 |

Table 2. Bivariate Correlations of CTS2 on 84 Participants

[†] Correlation is significant at the 0.10 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

reports, a significant correlation was found between exposure to IPV and reports of child internalizing behavior and externalizing behavior problems. There was a significant positive relationship between psychological aggression exposure by a partner, and both internalizing behavior problems, $r(86)=-.27, p<.05$, and externalizing behavior problems in the child, $r(86)=.36, p<.01$. As psychological aggression exposure increased, so did internalizing and externalizing behavior in the child. Exposure to IPV injury by a partner was also marginally significantly related to internalizing behavior problems, $r(88)=.20, p=0.06$ as well as exposure to sexual coercion and internalizing behavior problems, $r(87)=.19, p=0.08$.

Correlations did not reveal a significant relationship between exposure to IPV and child BMI in the current data. The data did reveal a significant relationship between child's age and BMI percentile, $r(91)=.25, p < .05$.

DISCUSSION

This study examined the relationship between maternal reports of exposure to IPV and preschool-aged children's behavior and physical health, particularly obesity, in a low income, African American population. As predicted in the first hypothesis, previous literature indicated that primary caregivers who reported more incidents of IPV also reported more internalizing behavior and externalizing behavior problems in their preschool-age children. Previous research also found internalizing and externalizing behavior problems, related to IPV, in preschool-age children (Martin & Clements, 2002; Morrel et al., 2003). More specifically, the data found a significant relationship between reported psychological aggression and both internalizing and externalizing behavior problems. Maternal reports of IPV injury and sexual coercion by a partner were linked to internalizing behavior problems. These earlier results appeared to illustrate the detrimental effects maternal IPV have on the functioning and development of children residing in homes where IPV occurs.

The literature indicated that preschool-age children residing in violent homes might experience feelings of depression, anxiety and helplessness because they depend on parents, espe-

cially mothers, for protection and support (Howell, 2011 p. 563). The data showed a significant positive relationship between internalizing and externalizing behavior problems in preschool-age children exposed to IPV, perhaps due to the fact that unlike older children, younger children are not able to make sense of such events, and have not yet developed the skills to cope (Graham-Bermann & Perkins, 2010). In addition, because preschool-aged children require more supervision from parents, compared to older children, they may not be able to avoid incidents of IPV (Martin & Clements, 2002).

Researchers indicated maternal depression as a major influence affecting preschool-age children's internalizing and externalizing behavioral problems (Morrel et al., 2003). In addition, Holmes (2013) found that maternal mental health was an important mediating factor in the relationship between exposure to IPV and externalizing behavior problems in young children.

The second hypothesis was not supported by the data in the current study. It was hypothesized that mothers who reported exposure to IPV would have children with a higher BMI. Although 31% of children were reported to be overweight, there was no significant relationship between exposure to IPV and child's BMI. Furthermore, no significant correlation between BMI and maternal reports of internalizing and externalizing behavior problems in their child were found. These findings are not consistent with the previous research (Boynton-Jarrett et al., 2010; Suglia et al., 2012; Lamers-Winkelmann et al., 2012). This lack of relationship could be due to covariates not examined in this study. For example, Haung et al. (2011) explored the relationship and found that obesity and IPV were indirectly related to depression. They found that behavioral changes, such as depression, were a major influence between the IPV and obesity relationship. Furthermore, children who were victims, or exposed to violence, would overeat and lacked physical activity caused by the depression (Haung et al., 2011). The lack of relationship found in the current study could also be due to the under-reporting of both IPV exposure and behavior problems by mothers in the current sample.

Limitations and Strengths

This study had some limitations that should be noted. First, the study utilized a relatively small sample of low SES, African American mothers. Although it is important to examine these questions among low-income minority samples, where some research indicates that risk is high, results cannot be generalized to other populations. A larger and more diverse sample of participants may have resulted in stronger results. A second limitation is that the measures utilized self-reports from primary caregivers in order to assess exposure to IPV and the child's behavior. This can lead to under-reporting, or over-reporting and biased responses. This may have contributed to the relatively low rates of IPV and behavior problems reported in the current study.

Despite these limitations, this study contributed significant findings to the existing IPV literature. IPV has detrimental effects on preschool age children's behavior and physical health. The literature on IPV recognizes preschool-age children as a vulnerable population at risk for exposure to IPV. In spite of the extended research on IPV, few studies have examined its effects on preschool-age children. This study contributes to the understanding of potential IPV in the homes of primary caregivers with a child in Head Start and examined the relationship between IPV and preschool-age children behavioral problems and obesity, in the hope to create programs to better serve preschool-age children and their families. The long-term goal of this study is to expand research on influences that affect the mental health of minority populations, primarily preschool-age children. This research hopes to contribute to the establishment of early interventions to decrease mental health disparities among minority populations.

Future research should further explore the effects of IPV on primary caregivers and their children's physical health. There is a dire need for the establishment of family interventions focusing on the mental health of primary caregivers, especially in minority populations. In general, clinicians and health care providers should scan children during regular health visits in order to detect signs of IPV exposure to provide appropriate treatment to children and their families. Early detection and treatment of families with IPV can prevent its detrimental long-term effects.

REFERENCES

- Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist 4-18 and 1991 Profile*. Burlington, VT: University of Vermont Department of Psychiatry.
- Boynton-Jarrett, R., Fargnoli, J., Suglia, S. F., Zuckerman, B., & Wright, R. J. (2010). Association between maternal intimate partner violence and incident obesity in preschool-aged children. *Arch Pediatr Adolesc Med*, 164(6)
- Centers for Disease Control and Prevention (CDC). (2009). Obesity prevalence among low income, preschool-aged children-United States, 1998-2008. *MMWR Morb Mortal Wkly*,58(28):769-773.
- Centers for Disease Control and Prevention (2006). Understanding Intimate Partner Violence: Fact Sheet. Accessed on May 5, 2013 from http://WWW.cdc.gov/ncipc/dvp/ipv_factsheet.pdf
- Evans, G.W., & Kim, P. (2010). Multiple risk exposure as a potential explanatory mechanism for the socioeconomic status-health gradient. *Ann N Y Acad Sci*.1886:174-189.
- Fusco, R. A., & Fantuzzo, J. W., (2009). Domestic violence crimes and children: A population based investigation of direct sensory exposure and the nature of involvement. *Children and Youth Service Review*, 31(2), 249-256.
- Fantuzzo, J., & Fusco, R. (2007). Children's direct sensory exposure to substantiated domestic violence crimes. *Violence and Victims*, 22, 158-171.
- Graham-Bermann, S. A., & Perkins, S. (2010). Effects Of Early Exposure And Lifetime Exposure to intimate partner violence (IPV) on child adjustment. *Violence and Victims*, 25(4), 427-439.
- Graziano, P. A., Calkins, S. D., & Keane, S. P. (2010). Toddler self-regulation skills predict risk for pediatric obesity. *International Journal of Obesity (London)*, 34(4), 953-957.
- Holmes, M. R. (2013). The sleeper effect of intimate partner violence exposure: long-term consequences on young children's aggressive behavior. *Journal of Child Psychology and Psychiatry*. doi: 10.1111/jcpp.12071
- Holmes, M. R. (2013). Aggressive behavior of children exposed to intimate partner violence: An examination of maternal mental health, maternal warmth and child maltreatment. *Child Abuse & Neglect*, doi:http://dx.doi.org/10.1016/j.chiabu.2012.12.006
- Howell, K. H. (2011). Resilience and psychopathology in children exposed to family violence. *Aggression and Violent Behavior*, 16, 562-569.
- Huang, H. Y., Yang, W., & Omaye, S. T. (2011). Intimate partner violence, depression, and overweight/obesity. *Aggression and Violent Behavior*, 16, 108-114.
- Jarvis, K. L., Gordon, E. E., & Novaco, R. W., (2005). Psychological distress of children and mothers in domestic violence emergency shelters. *Journal of Family Violence*, 20(6), 389-402.
- Kim, J., & Cicchetti, D. (2010). Longitudinal pathways linking child maltreatment, emotion, regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry*, 51(6), 706-716.
- Lamers-Winkelmann, F., De Schipper, J. C., & Oosterman, M. (2012). Children's physical health complaints after exposure to intimate partner violence. *British Journal of Health Psychology*, 17, 771-784.
- Martin, S. E., & Clements, M. L. (2002). Young children's responding to interparental conflict: Associations with marital aggression and child adjustment. *Journal of Child and Family Studies*, 11(2), 231-244.

- McDonald, R., Jouriles, E. N., Raminsetty-Mikler, S., Caetano, R., & Green, C. E. (2006). Estimating the number of American children living in partner-violent families. *Journal of Family Psychology, 20*(1), 137-142.
- McFarlane, J. M., Groff, J. Y., O'Brien, J. A., & Watson, K. (2003). Behaviors of children who are exposed and not exposed to intimate partner violence: an analysis of 330 black, white, and hispanic children. *Pediatrics, 112*(3), e202-e207.
- Miranda, J. K., de, I. O., Granero, R., & Ezpeleta, L. (2013). Maternal childhood abuse, intimate partner violence, and child psychopathology: The mediator role of mothers' mental health. *Violence Against Women, 19*(1), 50-68. doi:http://dx.doi.org/10.1177/1077801212475337
- 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.
- Perkins, S., Graham-Bermann, S. (2012). Violence exposure and the development of school related functioning: mental health, neurocognition, and learning. *Aggression and Violent Behavior, 17*(1), 89-98.
- Ramasubramanian, L., Lane, S., & Rahman, A. (2013). The association between maternal serious psychological distress and child obesity at 3 years: A cross-sectional analysis of the UK millennium cohort data. *Child: Care, Health and Development, 39* (1), 134-140. doi:http://dx.doi.org/10.1111/j.1365-2214.2011.01325.x
- Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17*, 283-316.
- Suglia, S. F., Duarte, C. S., Chambers, E. C., & Boynton-Jarrett, R. (2012). Cumulative social risk and obesity in early childhood. *Pediatrics (Evanston), 129*(5), e1173.
- Tjaden, P., & Thoennes, N. (2000). *Extent, nature, and consequence of intimate partner violence: Finding from the national violence against women survey*. Washington, DC: National Institute of Justice and Center of Disease Control and Prevention. Retrieved from <https://www.ncjrs.gov/pdffiles1181867.pdf>
- Ybarra, G. J., Wilkens, S. L., & Lieberman, A. F. (2007). The influence of domestic violence on preschooler behavior and functioning. *Journal of Family Violence, 22*(1), 33-42.