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Risk, Vulnerability, and Protective Processes of Parental Expressed Emotion for Children's Peer Relationships in Contexts of Parental Violence

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Abstract

Objective—This study examined risk, vulnerability, and protective processes of parental expressed emotion for children's peer relationships in families living in emergency shelters with high rates of exposure to parental violence (EPV). Parental criticism and negativity were hypothesized to exacerbate the association between EPV and poorer peer relations, while parental warmth was expected to buffer this association.

Method—Participants included 138 homeless parents ($M = 30.77$ years, $SD = 6.33$, range = 20.51–57.32 years; 64% African-American, 12% Caucasian, 24% other) and their 4–6-year-old children (43.5% male; $M = 4.83$, $SD = .58$, range = 4.83–6.92 years; 67% African-American, 2% Caucasian, 31% other). Families were assessed during the summer at three urban shelters, with parents completing the Five-Minute Speech Sample (FMSS), later scored for criticism, negativity, and warmth, and interview items about EPV. Teachers were subsequently contacted in the fall about children's classroom behavior, and they provided ratings of peer relations. Demographic factors, parental internalizing symptoms, and observed parental harshness were examined as covariates.

Results—Regression analyses indicated an interaction of EPV and warmth, consistent with a moderating effect of expressed emotion for EPV and peer relations, although no interactions were found for criticism or negativity. Observed harshness also directly predicted worse peer relations.

Conclusions—Parental warmth may be protective for positive peer relations among impoverished families with high levels of EPV. The FMSS is discussed as an efficient tool with potential for both basic clinical research and preventative interventions designed to target or assess change in parental expressed emotion.

Keywords

poverty; trauma; parent-child relationships; peer relationships; risk and protective factors

Extensive research, well-grounded in social learning and developmental-ecological perspectives, indicates that childhood exposure to parental violence (EPV) confers widespread risk for general and interpersonal aggression across impoverished to affluent sociodemographic populations (Bandura, 1973; Margolin, 2005; Mohr, Lutz, Fantuzzo, & Perry, 2000; Narayan, Englund, Carlson, & Egeland, 2013; Osofsky, 2003; Straus, Gelles, & Smith, 1990). Empirical efforts are still needed, however, to examine the developmental processes, including risk, vulnerability, and protective factors, linking EPV to peer competence (e.g., acceptance) or problems (e.g., victimization) during childhood (Bauer et al., 2006; Bowes et al., 2009; Levendosky, Huth-Bocks, Shapiro, & Semel, 2003; Margolin, 2005; Martinez-Torteya, Bogat, von Eye, & Levendosky, 2009). These developmental processes may be especially critical to identify within disadvantaged families, who have high rates of adversity, including EPV, and a need for protective resources (Hausman & Hammen, 1993; McLoyd, 1998).

Developmental and resilience scientists distinguish the concepts of risk, vulnerability, promotive, and protective factors (Luthar, 2006; Rutter, 1987; Sameroff, 2000; Wright, Masten & Narayan, 2013). A risk factor indicates an elevated possibility for a specified negative outcome, often representing a direct threat to adaptive function or development of the individual regardless of the context in which it occurs (Masten, 2007; Sameroff, 2000). Evidence suggests that children's exposure to violence is a risk factor because it often is associated with worse function across numerous contexts, although the extent of impairment may vary with the characteristics of exposure (Margolin, 2005; Narayan, Englund, & Egeland, 2013). In contrast, a vulnerability factor is a moderator of risk, exacerbating maladaptation in the presence of a risk factor or other conditions of adversity (Luthar, 2006; Wright et al., 2013). Parental criticism of a child, for example, appears to be particularly harmful for child behavior problems in contexts of high parental coercion and low warmth (Dishion & Patterson, 2006; Miklowitz, 2004).

Promotive and protective factors are analogous but opposite in effects to risk and vulnerability factors. Promotive factors directly predict positive functioning regardless of the risk level (e.g., talent). Protective factors moderate the effects of adversity or risk, by buffering or otherwise mitigating the effects of the risks, with greater effects in high-risk than low-risk conditions. Evidence suggests that parental warmth has protective effects for high-risk children (Kim-Cohen, Moffitt, Caspi, & Taylor, 2004; Masten, 2007; Wright et al., 2013).

The present study examined the role of risk, vulnerability, and protective factors as developmental processes linking EPV to children's early peer relationships in families experiencing homelessness. In contexts of homelessness, defined here as families residing in emergency shelters, adversity often accumulates and places homeless children and families at the highest end of the cumulative risk spectrum (Masten, Miliotis, Graham-Bermann, Ramirez, & Neemann, 1993; Rog & Buckner, 2007). In 2005, over 200,000 homeless residents were part of families with children, and in 2010, this number exceeded 500,000 (U.S. Department of Housing and Human Development, 2007; 2010). Children in homeless families experience many traumatic life events, including high rates of EPV, although they are a more diverse population than families residing in domestic violence shelters (Browne

& Bassuk, 1997; Cutuli, Wiik, Herbers, Gunnar, & Masten, 2009). Not surprisingly, given the high levels of cumulative adverse life experiences reported in homeless families, children have more behavioral and emotional problems and risk for low achievement when they begin school (Bassuk & Rosenberg, 1988; Herbers et al., 2011; Masten et al., 1993).

Yet, the ways in which risk and protective factors within the parent-child relationship may influence pathways to child vulnerability or competence under specific types of adversity that accompany severe poverty are less understood. Efforts to design effective prevention and intervention programs for homeless families require a better understanding of how particular risk and protective processes operate in specific contexts of adversity. There is a compelling rationale for more research on risk and protective factors within parent-child relationships in homeless families and a specific need to understand these processes in regard to EPV (Anooshian, 2005a; Browne & Bassuk, 1997; Capaldi, Knoble, Shortt & Kim, 2012; Haber & Toro, 2004; Masten et al., 1993). This study tested models linking children's EPV and peer relations in school, and the intervening emotional tone of the parent-child relationship, measured briefly by parental expressed emotion (EE) in buffering or exacerbating poorer peer relations in contexts of EPV.

Theoretical and Empirical Perspectives on EPV and Social Development

Converging theoretical perspectives suggest that EPV in early childhood confers risk for negative peer relations, including physical aggression, bullying, victimization, and rejection. According to social learning and social interaction learning perspectives, witnessing elevated conflict or violence between parents provides children with a model that violence is acceptable (Bandura, 1973; Osofsky, 2003). Children with EPV may use aggression to solve conflict or intimidate others, and in turn, find aggression as an effective and rewarding social tool (Davies & Woitach, 2008). Aggressive children also may be expected to experience more rejection from prosocial peers and acceptance from deviant peers who tolerate aggressive behavior (Dishion & Patterson, 2006). Based on social information processing theories, in contexts of EPV, children's cognitive processes may be primed to perceive aggression and reciprocate aggressively, regardless of whether others' intentions are malicious (Crick & Dodge, 1994).

Empirical evidence supports the theoretical models linking EPV to peer functioning. Broadly speaking, EPV is a cross-cultural risk factor for peer bullying and victimization (Voisin & Hong, 2012). According to the Canadian National Longitudinal Survey of Children and Youth (Dauvergne & Johnson, 2001) EPV in school-age children was related to a three-fold increased risk for peer problems compared to non-exposed children. Children with EPV assessed in middle childhood and adolescence also were more likely to bully and be victimized (Baldry, 2003; Camacho, Ehrensaft, & Cohen, 2011; Knous-Westfall, Ehrensaft, MacDonell, & Cohen, 2011).

Some empirical studies in community and homeless populations have examined how EPV in early childhood predicts peer problems in the early stages of schooling. One study found that EPV by age five predicted teacher- and maternal-reported bullying at ages five and seven (Bowes et al., 2009). Conversely, another study found that EPV by age five predicted six-

year-old children's internalizing and externalizing problems more strongly than being bullied or victimized. However, this study relied on children's self-report of peer problems, a technique potentially biased by subjectivity or recall issues (Bauer et al., 2006).

In homeless families, victimized mothers were more likely to have preschool-age children who used verbal and physical aggression (e.g., insulting, name-calling, biting, and hitting) in play groups (Graham-Bermann & Levendosky, 1997) and school-age children who reported peer victimization (Anooshian, 2005b). A review on this topic reported that homeless children exposed to violence are more likely to be ostracized for being homeless, have increased conflict in parent-child relationships, display higher rates of aggression, and experience social isolation compared to lower-risk or housed peers (Anooshian, 2005a). More research is needed that draws on multi-informant data, including teachers' perspectives, and explores how parents can buffer or exacerbate peer functioning in disadvantaged samples with elevated EPV.

Risk and Protective Factors in Contexts of EPV

Research needs to clarify the risk and protective factors involving parental characteristics and the parent-child relationship that exacerbate or buffer children's peer problems in contexts of EPV. Theoretically, experiences with warm and supportive parents would be expected to ameliorate the risks associated with harsh environments and serve as protective factors (Luthar, 2006; Masten, 2001). Conversely, harsh or critical parenting, especially within contexts of EPV, may prime children for hostile attribution biases, in which they expect similar treatment from others, such as peers (Bowes et al., 2009; Crick & Dodge, 1994; Dishion & Patterson, 2006).

Empirically-identified parental/parenting risk factors for child maladjustment in contexts of EPV and homelessness include parental stress, internalizing problems, harsh parenting, and maltreatment (Cummings & Davies, 2002; Haber & Toro, 2004; Hausman & Hammen, 1993; Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008; Hughes & Huth-Bocks, 2007; Margolin, 2005). However, warm, supportive relationships may be moderators or buffers of child competence in contexts of conflict or EPV (DeBoard-Lucas, Fosco, Raynor, & Grych, 2010; Katz & Gottman, 1997; Martinez-Torteya et al., 2009). In contexts of acute and chronic poverty, including emergency shelters and transitional housing, protective effects of positive parenting for child competence are evident (Perlman, Cowan, Gewirtz, Haskett, & Stokes, 2012). For example, elements of positive parent child-relationships have been found to buffer children's academic competence from broad stressors associated with homelessness (Herbers et al., 2011).

Sample Considerations and Hypotheses

In community samples, rates of reported domestic violence range from 17% to 39% (Capaldi et al., 2012; Straus et al., 1990); however rates within homeless families may be as high as 60-90% (Abraham, Maida, Miller, Pardy, & Hanratty, 2012; Anooshian, 2005a; Browne & Bassuk, 1997). As described above, families in homelessness often possess a constellation of risk factors in addition to EPV, including parental psychopathology, low educational attainment, single parenting, and low social and financial resources (Browne &

Bassuk, 1993; Hausmen & Hammen, 1993; Perlman et al., 2012). Enduring perspectives on homelessness also suggest that sociodemographic risks (e.g., young maternal age, low educational attainment, number of children, lack of adequate housing) may more strongly contribute to family homelessness than severe psychiatric and chemical dependency issues, which may be a greater concern for homeless individuals (Bassuk & Rosenberg, 1988; Rog & Buckner, 2007).

To our knowledge, no study has examined risk or protective factors that moderate EPV in early childhood and peer relations at school entry. It is imperative to understand how these processes unfold at the onset of school, as academic and behavior development across the school years is largely influenced by how teachers and peers interact with and perceive children's behaviors (Sroufe, Egeland, Carlson, & Collin, 2005). Documenting these links in disadvantaged families could have valuable implications for promoting peer competence in adversity. It is also critical to measure risk and protective factors with great sensitivity to the current stress of highly mobile families, who have pressing priorities to secure basic needs and time-sensitive schedules (Haber & Toro, 2004; Narayan, Herbers, Plowman, Gewirtz, & Masten, 2012).

The current study utilized a brief yet effective tool to assess risk and protective factors in the parent-child relationship via parental expressed emotion (EE) from the Five-Minute Speech Sample (FMSS). On the FMSS, parents are instructed to speak about their child and their relationship for five minutes (Magana-Amato, 1993). EE, contemporarily a measure of parental criticism, and warm and negative affect, assesses the emotional tone of the family environment and is a predictor of preschoolers' adjustment problems (e.g., Caspi et al., 2004; Miklowitz, 2004; Peris & Hinshaw, 2003). Research suggests that aspects of EE, such as maternal warmth, may promote preschool-aged children's cognitive and behavioral resilience in contexts of SES deprivation (Kim-Cohen et al., 2004) and school-age children's socioemotional health in contexts of bullying (Bowes et al., 2010). EE provides a valid, low-burden tool to efficiently assess aspects of the parent-child relationship. In homeless families, EE, including criticism, negativity and warmth, has demonstrated strong reliability and validity with observed positive and negative parenting practices and children's school functioning (Narayan et al., 2012).

The present study evaluated whether aspects of parental EE (criticism, negativity, and warmth) from the FMSS had vulnerability or protective effects for children's EPV and peer relationships when they begin school. Observed parental harshness and hostility with children, parental internalizing symptoms, and sociodemographic risk also were examined as direct risk factors for poorer peer relationships, as they have been found to covary with EPV (Browne & Bassuk, 1993; Herrenkohl et al., 2008; Hughes et al., 2007). The following hypotheses were tested: (a) EE would moderate the relation between EPV and peer problems; more specifically, (b) criticism and negativity were expected to exacerbate peer problems, whereas (c) warmth was hypothesized to protect or buffer peer relations in contexts of elevated EPV.

Method

Participants

Participants included 138 primary caregivers ($M = 30.77$ years, $SD = 6.33$, range = 20.51-57.32 years; 64% African-American, 12% Caucasian, 24% other) and their 4-6-year-old children (57% female, 43% male; $M = 4.83$, $SD = .58$, range = 4.83-6.92 years; 67% African-American, 2% Caucasian, 31% other) who were recruited over two summers from three urban emergency shelters for a study of parenting and school readiness. Together, these three shelters house nearly all the homeless families and the majority of all sheltered families in this metropolitan area, and they also account for a large proportion (over 60%) of all children identified as homeless or highly mobile in the school district where the shelters are located.

Caregivers were comprised of biological mothers (93%), biological fathers (4%), and grandparents or stepparents (3%). Families were considered eligible if they had a child who was entering kindergarten or first grade in the fall, did not have diagnosed developmental delays that would interfere with assessments, and spoke English well enough to participate. Families were recruited after at least three days of acclimation to the shelter via fliers in mailboxes and conversations with residents and research staff at informational tables set up during mealtimes.

Parents completed the FMSS, previously deemed to be reliable and valid in a similar sample of homeless families (Narayan et al., 2012) and information on demographics and mental health during one-hour interviews, while children completed other tasks. Then, parents and children engaged in a 45-min structured sequence of interaction activities and games adapted for use in emergency shelters (Narayan et al., 2012; Gewirtz et al., 2009). The interaction tasks were video-recorded and later coded for observed parenting and child behavior. The University of Minnesota institutional review board approved all study procedures, and at the onset of participation parents provided informed consent for themselves and their children.

With parental permission, schoolteachers were mailed a questionnaire about the child's school adjustment. Teachers were not contacted until after approximately October 15 to allow for their perceptions of and relationship with the child to develop. Letters were sent to school principals requesting them to distribute questionnaires to teachers about students participating in a research study about families who were "residentially mobile." Parents and teachers were provided with an honorarium for their participation and children were given small gifts.

Measures: Primary Variables

Children's exposure to parental violence (EPV)—During the interview, parents responded to questions about EPV from the Life Events Questionnaire and the Lifetime Events form (LEQ, LTE; Masten et al., 1993; Masten, Neemann, & Andenas, 1994). Four items ($\alpha = .64$) on EPV were used, two from the LEQ about arguments ("Were there many arguments between adults living in the house over the past year?" and "Were there many arguments between a parent and a former/separated spouse over the past year?"); and two

from the LTE about severe fights and violence (“Has the child ever lived in a home with severe fights and relationship problems between parents or adult caregivers?” and “Has the child ever seen a parent injured by another person?”). Children were assigned a 0-2 EPV score of no exposure, exposure to arguments only (either LEQ item), or exposure to severe violence (either LTE item).

Parental EE: Criticism—Criticism was coded from the FMSS with the standard coding system for EE (Magaña-Amato, 1993). Two raters coded all tapes with good agreement ($\kappa = .79$). [One rater was previously trained to excellent reliability ($\kappa = .80$) and coded all tapes and one rater was trained for the study and coded 30% of the tapes]. Speech samples were rated on a 0-2-point scale ranging from “low” criticism (no evidence of critical statements or tone), “borderline” criticism, i.e., presence of “dissatisfaction,” defined as less harsh statements (e.g., “I get frustrated by his behavior” or “Her disobedience bothers me”); and “high criticism,” i.e., one of more critical statements (e.g., “My child is very bad” or “She gets on my nerves when she acts spoiled”) or a rejecting, hostile, or mocking tone ($M = .44$, $SD = .72$).

Parental EE: Warmth and negativity—Two independent raters scored negativity and warmth from the FMSS with the exact EE rating system for parental affect found in Caspi et al. (2004) that delineates these two 6-point scales. Warmth was based on parents' overall positive tone and expressions of affection, sympathy, concern, and enjoyment of the child [Interclass correlation coefficient (ICC) = .81]. Negativity was based on tone and expressions of hostility, disparagement, rejection, and resentment ($ICC = .83$). Raters' final scores were averaged.

Given that parents who are homeless have previously been found to have some difficulties completing the FMSS, potentially due to lack of ease with open-ended verbal tasks or hesitations about expressing candid or lengthy descriptions about their children to unfamiliar people (Narayan et al., 2012), parents were provided with standardized prompts developed for the FMSS (Sandberg, Rutter, & Jarvi, 2003) if they had difficulty with the task.

Children's peer relations—Teachers completed items from the Health and Behavior Questionnaire (HBQ; Armstrong & Goldstein, 2003) about children's peer relations. The Peer Relations scale from the HBQ is comprised of two subscales, peer acceptance/rejection ($M = 3.29$, $SD = .61$, $\alpha = .64$), which includes eight items (e.g., “Has lots of friends at school” or “Is not much liked by other children” reverse scored) and bullied by peers ($M = 1.41$, $SD = .52$, $\alpha = .64$), which includes three reverse-scored items (e.g., “Is teased and ridiculed by other children”) All items have 4-point responses (*Not at all like [the child]* to *Very much like [the child]*). Based on standard procedures for this measure, the subscales were composited. (In the current sample, these two subscales were moderately associated, $r = -.51$, $p < .01$). Across the two years of data collection, 97 different teachers (56% kindergarten, 42% first grade; 1% mixed class, 1% special education) completed reports about children during the school year (mean latency between study participation and teacher report received = 131 days, $SD = 66$, range = 53-343 days).

Measures: Covariates and Control Variables

Parent and child demographic variables—Parents provided information on child sex and age, and parent race during the semi-structured parent interview.

Family sociodemographic risk—Based on ten previously established risk factors relevant to high-risk families (Obradovi, Shaffer, & Masten, 2012), a cumulative risk score was calculated for each family that included ten items: single parent; at least four children in household; primary caregiver currently unemployed; primary caregiver completed less than a high school degree; primary caregiver history of child homelessness; at last residence family was unable to afford rent, lived in unsafe or substandard housing, or lived in an unsafe neighborhood; five or more moves during the target child's life (elected as a cutoff because it pertained to 25% of the sample, which is deemed an appropriate threshold in the cumulative risk literature; Sameroff, 2006); and presence of high food insecurity [based on a shortened form of the U.S. Food Security Survey (Nord, Andrews, & Carlson, 2006). Each of the ten items were dichotomized first. Then, the risk index was computed by summing across the ten items, with higher scores representing higher sociodemographic risk.

Parental internalizing problems—Parental depression and anxiety scores were based on parent reports on the short form of the Hopkins Symptom Checklist (HCL-25; Glass, Allan, Uhlenhuth, Kimball, & Borinstein, 1978). Parents rated the frequency of how much 25 symptoms bothered them over the past week on a scale from zero (*Not at all*) to three (*Extremely*). Total scores were computed by averaging responses across items ($\alpha = .95$).

Parent harshness/hostility—During the videotaped interaction, dyads engaged in a series of structured tasks (Forgatch & DeGarmo, 1999; DeGarmo, Patterson, & Forgatch, 2004) modified for use with homeless families (Gewirtz et al., 2009; Narayan et al., 2012). Tasks elicited mutual enjoyment and communication (e.g., free play, problem-solving about family issues), parental limit-setting (e.g., enforcing toy clean-up) and scaffolding (e.g., delivering instructions and feedback on guessing-game and puzzle tasks), and dyadic competition (e.g., racing to sink one marble into a hole on a labyrinth board). On 0-5 point scales from *Very low* to *Very High*, parental harshness/hostility was coded by two additional, independent raters for behaviors of rejection, sarcasm, derision, putting the child down, expressing hurtful comments, or exhibiting rough or physical reprimanding behavior ($ICC = .78$).

Data Analytic Plan and Missing Data

To examine whether parental EE moderated children's peer relations in contexts of EPV, three separate models for EE (criticism, negativity, warmth) tested the vulnerability effects of parental criticism and negativity and the protective effects of parental warmth. In each model, children's peer relations were regressed on the independent predictors (EPV, EE) and their interaction ($EPV \times EE$). Demographic covariates controlled for shelter site, child sex and age, sociodemographic risk, and parental race (Caucasian or ethnic minority), given previous research suggesting that the effects of parental EE on child adjustment may vary by culture/race (Rosenfarb, Bellack, & Aziz, 2006). Theoretical covariates included parental internalizing symptoms, found to relate to EE (Peris & Hinshaw, 2003), and parental

observed harshness/hostility, as direct harsh parenting may covary with EPV (Herrenkohl et al., 2008). Z-score transformations were applied to EPV, criticism, negativity, warmth, harshness, internalizing symptoms, and the risk variable to reduce non-normality before analyses were performed. The Johnson-Neyman technique (Hayes & Matthes, 2009) was applied to any significant interactions to probe for significant simple slopes of peer relations on EPV at different values of EE. Results were also examined for influential cases according to Cook's d greater than $4/n$ (Cook & Weisberg, 1982; Rawlings, 1988).

The total proportion of missing data in the dataset was 2.8%, ranging from 0% to 5.1% on independent variables and covariates and 20.3% on the outcome variable. Even with the assistance of local districts, 28 children were not able to be located in schools. However, independent t-tests showed that children who were located did not differ from children who could not be located on any independent or demographic variables (e.g., shelter site, parental race, family risk), with the exception that parents of children who could be located reported significantly higher mean levels of internalizing symptoms, $t(2, 136) = 2.06, p < .05$. Given that we did not detect any systematic differences in missing or non-missing data that could have biased the research questions, current levels of missing data were assumed to be missing at random. To confirm that findings did not differ when using raw or imputed scores, data were imputed with SPSS Version 21 using fully conditional specification resulting in 20 imputed datasets. Final imputed results reflected a combination of all imputed datasets (Rubin, 1987; Schafer & Graham, 2002). Results using imputed scores did not differ from raw data; thus, findings from the raw, non-imputed data are reported.

Results

Descriptive statistics

Over half of child participants (55.1%; $n = 76$) had at least some EPV. Of children with any EPV, 15.2% ($n = 21$) had only been exposed to arguments, and 39.9% ($n = 55$) had been exposed to severe violence. According to parents, 15.2% ($n = 21$) reported that domestic violence was a reason they moved to the shelter, and 7.2% ($n = 10$) reported it was the primary reason. In terms of criticism, 69.1% ($n = 94$) of parents expressed low criticism, 17.6% ($n = 24$) expressed borderline criticism, and 13.2% ($n = 18$) expressed high criticism. According to teachers, 83.6% ($n = 92$) of children had favorable peer relations, reflected by scores of at least a three on the 1-4-point scale. The amount of time between children's study participation and their teacher's reports of peer relations was not related to the quality of peer relations reported. Of note, parents reported substantially elevated rates of internalizing symptoms (mean = 1.77, while clinically-relevant cutoffs have been identified at .28; Glass et al., 1978). Here, internalizing symptoms were significantly related to higher sociodemographic risk ($r = .21, p < .05$), EPV ($r = .30, p < .01$), negativity ($r = .27, p < .01$), and criticism ($r = .18, p < .05$). Table 1 presents correlations.

Primary Analyses: Hierarchical Linear Regression

In the all three models, children's peer relations were regressed onto the demographic covariates in the first step, the theoretical covariates in the second step, parental EE (criticism, negativity or warmth) and EPV in the third step, and an interaction of EE by EPV

in the fourth step. Results for the vulnerability effects models (criticism and negativity) revealed no main effects of EE, and no significant interactions. However, there were significant main effects of parental harshness ($\beta = -.33, p < .01$) in both vulnerability models. Results for the protective effects model (warmth; Table 2) revealed a significant interaction of EPV by warmth ($\beta = .34, p < .01$) in addition to the significant effect of parental harshness ($\beta = -.35, p < .01$). The protective effects model accounted for approximately 23.9% of the variance (R^2) in children's peer relations, $\eta^2 = .20$, power = .76. A final model was run to test whether the interaction of EPV by warmth held when including all EE variables and interactions in one model for a comprehensive omnibus test. These results confirmed that the interaction of EPV by warmth and the direct effect of harshness remained as significant predictors of children's peer relations.

Secondary Analyses: Probing the Interaction

Using the Johnson-Neyman technique and tests of regions of significance (Hayes & Mattes, 2009) the simple slopes of EPV were examined to determine the points at which warmth showed a significant conditional effect of EPV on peer relations. Results revealed that simple slopes of peer relations on EPV were significant at one standard deviation (SD) below the mean of warmth (slope = $-.14, p < .05$) and one SD above the mean of warmth (slope = $.19, p < .01$). In families with low warmth, there was a significant negative association between EPV and children's peer relations, such that higher levels of EPV were associated with poorer peer relations. Conversely, in families with high warmth, there was a significant positive association between EPV and children's peer relations, such that higher levels of EPV were associated with stronger peer relations. These patterns were the same when the "peer acceptance/rejection" and "bullied by peers" subscales were examined individually.

According to Cook's d of 4/ n (Cook & Weisberg, 1982; Rawlings, 1988), however, the significant interaction of peer relations on EPV at one SD above the mean of warmth was driven by four influential cases. When these cases were removed, the simple slope of peer relations on EPV at one SD above the mean of warmth dropped to non-significance (slope = $.09, p = .15$), but the simple slope at one SD below the mean of warmth remained significant (slope = $-.15, p < .01$) (Figure 1). However, of note, even with these four cases removed, the Johnson-Neyman technique revealed a significant positive relation between EPV and peer relations at the highest level of warmth (z -score = 1.68, raw warmth score = 5), such that higher EPV was related to better peer relations for children with the highest levels of parental warmth. Ten parents expressed this highest level of warmth about children, and seven of these parents were from families who also had the highest levels of EPV.

Discussion

This study examined whether parental EE would moderate children's peer relationships in contexts of increased EPV. Results partially supported the anticipated associations of EE, EPV, and child peer relations. We hypothesized that parental warmth would have a protective effect for buffering peer relationships, and this hypothesis was supported. The

interaction of EPV by warmth was significant, although there was no main effect of warmth on peer relations. This finding suggests that warmth may not be a promotive factor for homeless children's peer relations, but it may be protective in contexts of higher EPV. At lower levels of warmth (one SD below the mean), children with less EPV exhibited stronger peer relations, but children with more EPV exhibited poorer peer relations. At higher levels of warmth (one SD above the mean) and with the four influential cases removed, the relation between EPV and peer relations was not significant, consistent with a protective effect. This finding suggests that in homeless families, warmth may buffer children's peer relations in contexts of elevated EPV.

The role of warmth as a protective factor is consistent with past findings that warmth from parents is critical in protecting children from adversity, including family conflict, being bullied, and the risks associated with severe poverty (Bowes et al., 2010; DeBoard-Lucas et al., 2010; Herbers et al., 2011; Katz & Gottman, 1997; Kim-Cohen et al., 2004). Here, a few additional, unexpected findings regarding warmth emerged. For a subset of children whose parents expressed the highest levels of warmth and who also had high EPV, there were indications of better peer relations. Potentially, when violence exposure is very high, some parents may respond with very high warmth, which in turn protects children from peer rejection or bullying, enhances peer acceptance, or both. This pattern would be consistent with a risk-activated protective effect, which specifies that the influence of a particular protective factor emerges or becomes stronger in specific contexts of heightened risk (Masten, 2001). This finding should be interpreted cautiously because it was attributed to a small subgroup of families.

Criticism and negativity were hypothesized to show vulnerability effects of exacerbating peer relations in contexts of EPV. Neither criticism nor negativity had main effects (as risk factors) or moderating effects (as vulnerability factors) of EPV. In homeless families with heightened EPV, parental criticism or negative affect towards children may not exacerbate children's peer rejection or victimization. The lack of association between criticism and children's peer functioning was also reported in a previous study of homeless families with a different sample (Narayan et al., 2012). We chose to examine criticism and negativity in this study given their previous negative effects for child maladjustment (Caspi et al., 2004; Miklowitz, 2004; Peris & Hinshaw, 2003). However, in high-risk, ethnically diverse families, criticism and negativity may have less of an impact on children's maladjustment (Rosenfarb et al., 2006). In a previous study, negativity was found to be inversely associated with children's prosocial behavior with peers, but peer acceptance was not examined (Narayan et al., 2012). Together, these findings suggest that specifically in contexts of EPV and homelessness, warmth may have a stronger moderating role as a salient, protective influence for very high-risk children.

EPV was not directly related to peer relations in any of the models. These findings are consistent with previous research on a lack of direct effects between EPV and peer problems in young children (Bauer et al., 2006). Potentially, the relations between EPV and bullying or victimization is stronger in older children (Baldry, 2003; Camacho et al., 2012; Knous-Westfall et al., 2011) because older children may have more opportunities to develop patterns and behaviors indicative of peer problems and may spend more time in school and

peer contexts. Pathways from EPV to peer relations in younger children may be more complex and confounded by factors such as more time at home with caregivers and less consolidated problems with peers.

In contrast to EE, observed parental harshness/hostility showed a direct risk effect for children's poorer peer relations across all models. These findings are consistent with theories and research that harsh or rejecting parenting may compromise peer competence (Bowes et al., 2009; Crick & Dodge, 1994; Dishion & Patterson, 2006). This study supports past findings that in homeless families, children who receive harsh or hostile treatment from parents are likely to face social problems (Anooshian, 2005b). This study also extends past findings to specifically suggest that children of harsh or hostile parents may experience less peer acceptance and be bullied. Potentially, children may internalize models of harsh treatment from primary caregivers or learn ways of interpreting social interactions with "victim" signals that place children at risk for peer rejection or victimization at school (Crick & Dodge, 1994; Sroufe et al., 2005).

This study emphasized that the FMSS can serve as an efficient assessment tool to characterize meaningful aspects of parent-child relationships, including protective effects of parental warmth. With the FMSS, it is possible to characterize warmth in a matter of minutes. Low parental warmth on the FMSS may signal risk to child peer relations, especially in families with more EPV. Further validation of the FMSS is needed in this regard, but this measure may have potential for screening and targeting change in interventions to promote parenting and protect child competence in risky family situations. Past research has found that warmth from the FMSS is protective for cognitive, behavioral, and emotional resilience in contexts of SES deprivation and peer victimization (Bowes et al., 2010; Kim-Cohen et al., 2004). The present study extends these findings to indicate that warmth may also buffer peer competence and protect against peer victimization in contexts of EPV and high mobility.

Strengths & Limitations

To our knowledge, this is the first study to examine the protective effects of EE for children's peer relationships in contexts of parental conflict and violence, and residential instability. As expected, rates of EPV were high among these homeless families. By conducting this study in a population with higher rates and variability of EPV compared to other community samples (Anooshian, 2005a; Browne & Bassuk, 1997; Capaldi et al., 2012), we observed effects consistent with protective influences of parental warmth in highly disadvantaged families. This study also controlled for key covariates of EPV, such as sociodemographic risk, internalizing problems, and parental harshness, the latter of which was assessed by direct observation.

With regard to limitations, this study was conducted in family shelters in one metropolitan area. Although these shelters represent the majority of sheltered homeless families in the region, results may not generalize to homeless families on the streets or doubled-up with kin or friends, or to more residentially stable, disadvantaged families. Data were drawn from a larger study of children and parents that focused on individual differences within homeless families, rather than comparisons to low-income, housed families. Thus, it is not clear

whether the results are specific to homeless families or generalizable to other highly disadvantaged families. However, numerous studies of homelessness have noted that many homeless and low-income, housed families have similar sociodemographic backgrounds, except that the homeless families may fall higher on a continuum of risk, especially in regard to adverse life events contributing to homelessness, such as EPV (Anooshian, 2005a; Haber & Toro, 2004; Masten et al., 1993). Finally, it is unclear whether warmth would be as important a protective mechanism in affluent families as it may be for disadvantaged families; however, base rates of EPV in more affluent families likely would be lower, making protective mechanisms in contexts of EPV more difficult to assess. It would be useful to delineate, in a large, normative population-based sample or a series of smaller studies, the conditions in which EE and observed parenting have risk, promotive or moderating influences on child adjustment.

There were also some methodological limitations. Two of the four items comprising “EPV” reflected conflict between parents or other adults within the past year; thus they may be an underrepresentation of the extent of EPV across early childhood. Nonetheless, the EPV variable reflected a wide degree of exposure for participants, with some children experiencing very high levels of EPV and some not experiencing any. Additionally, the current study was drawn from a larger study that primarily examined other issues, rather than EPV. Thus, we were limited by specific items, rather than a well-validated scale, when formulating the EPV variable, which may have accounted for the relatively low internal consistency. We also were unable to locate a subset of children in school. While we obtained school data for 80% of this mobile sample, which required exceptional relationships with districts, local shelters, and parents involved, a proportion of children's post-shelter adjustment cannot be accounted for, likely due to transience and high mobility. This subsample did not differ on key predictors but may differ in unmeasured ways from the group with outcome data. It also was not known whether children were still homeless when their teachers completed reports on children's peer relations.

Implications and Conclusions

In terms of implications for research with homeless and other high-risk families, the measure of warmth, previously validated with time-intensive observations of parenting quality in a different sample (Narayan et al., 2012), was derived from the FMSS with minimal parental burden and time during participation. It is encouraging that meaningful measures of the parent-child relationship may be obtained without lengthy observations or questionnaires. Additionally, despite ongoing adversity and challenges facing homeless families (Abraham et al., 2012; Browne & Bassuk, 1997), multiple aspects of resilience were observed. The distribution of parental warmth was negatively skewed, as were children's peer relationships, which is consistent with data from normative samples (Armstrong & Goldstein, 2003) and suggests that these aspects of functioning were more favorable than negative in this sample. These observations are promising as positive parent-child and peer relations may be especially important for high-risk children (Herbers et al., 2011; Masten, 2001).

More research is needed on the clinical and translational implications of this work. However, efforts to promote positive aspects of the parent-child relationship (e.g., levels of warmth that parents express towards children) and decrease parental harshness and hostility towards children could be promising targets for strengthening impoverished children's broader social functioning, including peer relations. The FMSS also may provide an efficient tool for assessing change in intervention studies. Additionally, an important but subtle finding was that warmth and hostility were not significantly related in this study, which suggests that these aspects of parenting in severely disadvantaged families may be relatively orthogonal. Targeted interventions for severely disadvantaged families could continue to benefit from brief programs to promote warmth and decrease harshness (Perlman et al., 2012), and pre- and post intervention effects could be measured briefly and effectively with the FMSS.

In conclusion, the current study found that within homeless families, parental warmth was a significant protective factor for children's peer relationships in contexts of EPV. Parental observed harshness towards children during naturalistic laboratory tasks in shelters also was a direct predictor of poorer peer relationships. Findings highlight the promising utility of the FMSS as a measure of parental warmth that could be applied to targeted interventions to improve aspects of the parent-child relationship in severely disadvantaged families. Future research is needed to validate additional brief, effective tools to identify risk and protective factors in families experiencing poverty and extend these protective effects to primary prevention efforts to strengthen children's social functioning, beginning as early as the preschool period.

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Note. Slope of low warmth (1 SD below mean) = $-.15$, $p < .01$. Slope of high warmth (1 SD above mean) = $.09$, $p = .15$.

Figure 1.

Children's Peer Relations on Exposure to Parental Violence at Different Levels of Parental Warmth

Note. Slope of low warmth (1 SD below mean) = $-.15$, $p < .01$. Slope of high warmth (1 SD above mean) = $.09$, $p = .15$.

Table 1

Bivariate Correlations and Descriptive Statistics

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Child Sex (Male)	-										
2. Child Age	.01	-									
3. Parent Race (Cauc)	.04	.11	-								
4. Family Risk	-.08	.09	.11	-							
5. Parent Internalizing	.01	.00	-.02	.21*	-						
6. Parent Harsh/Hostile	.02	-.14	-.11	-.07	.15	-					
7. Child EPV	-.03	.03	.02	.23**	.30**	.08	-				
8. Parent Criticism	.03	-.03	-.03	.01	.18*	.18*	.13	-			
9. Parent Negativity	.02	-.02	-.05	.03	.27**	.24**	.10	.73**	-		
10. Parent Warmth	-.05	-.02	.00	.02	-.03	-.08	.08	-.21*	-.36**	-	
11. Child Peer Relations	.06	.06	.08	-.05	-.04	-.32**	-.05	-.12	-.17 [†]	.08	-
Mean (% if ordinal)	43.5%	5.77	11.6%	3.93	1.77	2.27	.94	.44	1.18	3.26	3.44
Standard Deviation	--	.58	--	1.61	.62	.77	.92	.72	1.04	1.23	.49

Note. Cauc = Caucasian; EPV = Exposure to Parental Violence

[†]
p < .10

*
p < .05

**
p < .01

Table 2

Children's Peer Relations on Independent Variables, Interaction, and Covariates

	<i>B</i>	<i>SE</i>	95% <i>CI</i> (<i>B</i>)		β	<i>R</i> ²	<i>F</i>	<i>R</i> ²
Step 1: Demographic Covariates						.01	.17	.01
Child Sex (Male)	.01	.10	-.18	.21	.01			
Child Age	-.01	.09	-.18	.17	-.01			
Parent Race (Caucasian)	.11	.14	-.18	.39	.08			
Family Sociodemographic Risk	-.01	.05	-.11	.09	-.02			
Step 2: Theoretical Covariates						.13	1.98	.12**
Child Sex (Male)	.01	.09	-.18	.19	.01			
Child Age	-.04	.08	-.21	.12	-.05			
Parent Race (Caucasian)	.07	.14	-.20	.34	.05			
Family Sociodemographic Risk	-.02	.05	-.11	.08	-.03			
Parental Internalizing Symptoms	-.01	.05	-.11	.08	-.03			
Parental Harshness / Hostility	-.17	.05	-.27	-.08	-.37**			
Step 3: Main Effects						.13	1.57	.00
Child Sex (Male)	.00	.10	-.18	.19	.00			
Child Age	-.05	.09	-.22	.12	-.06			
Parent Race (Caucasian)	.07	.14	-.20	.34	.05			
Family Sociodemographic Risk	-.02	.05	-.12	.08	-.04			
Parental Internalizing Symptoms	-.02	.05	-.12	.08	-.04			
Parental Harshness / Hostility	-.18	.05	-.27	-.08	-.38**			
Children's EPV	.02	.05	-.08	.12	.04			
Parental Warmth	.02	.05	-.08	.12	.05			
Step 4: Interaction						.24	2.91	.11**
Child Sex (Male)	.03	.09	-.15	.20	.03			
Child Age	-.06	.08	-.22	.10	-.07			
Parent Race (Caucasian)	.07	.13	-.18	.33	.05			
Family Sociodemographic Risk	-.04	.05	-.13	.06	-.08			
Parental Internalizing Symptoms	-.01	.05	-.10	.09	-.01			
Parental Harshness / Hostility	-.16	.05	-.26	-.07	-.35**			
Children's EPV	.03	.05	-.07	.12	.05			
Parental Warmth	.00	.05	-.10	.09	-.01			
EPV $\times$ Warmth	.17	.05	.08	.26	.34**			

* $p < .05$ **
 $p < .01$