Social cognitions, distress, and leadership self-efficacy: Associations with aggression for high-risk minority youth

STEPHEN S. LEFF,[a,b,c] COURTNEY N. BAKER,[a,d] TRACY E. WAASDORP,[a,b] NICOLE A. VAUGHN,[a,e]
KATHERINE B. BEVANS,[a,b,c] NICOLE A. THOMAS,[a,f] TERRY GUERRA,[a,f,g] ALICE J. HAUSMAN,[a,h] AND
W. JOHN MONOPOLI[b]

[a]Philadelphia Collaborative Violence Prevention Center; [b]Children's Hospital of Philadelphia Violence Prevention Initiative;
[c]University of Pennsylvania Perelman School of Medicine; [d]Tulane University; [e]Drexel University; [f]Philadelphia Area Research
Community Coalition; [g]AchieveAbility; and [h]Temple University

Abstract

Urban ethnic minority youth are often exposed to high levels of aggression and violence. As such, many aggression intervention programs that have been designed with suburban nonethnic minority youth have been used or slightly adapted in order to try and meet the needs of high-risk urban youth. The current study contributes to the literature base by examining how well a range of social–cognitive, emotional distress and victimization, and prosocial factors are related to youth aggression in a sample of urban youth. This study utilized data gathered from 109 9- to 15-year-old youth (36.7% male; 84.4% African American) and their parents or caregivers. A series of hierarchical multiple regressions were fit predicting youth aggression from social–cognitive variables, victimization and distress, and prosocial variables, controlling for youth gender and age. Each set of variables explained a significant and unique amount of the variance in youth aggressive behavior. The full model including all predictors accounted for 41% of the variance in aggression. Models suggest that youth with stronger beliefs supportive of violence, youth who experience more overt victimization, and youth who experience greater distress in overtly aggressive situations are likely to be more aggressive. In contrast, youth with higher self-esteem and youth who endorse greater leadership efficacy are likely to be less aggressive. Contrary to hypotheses, hostile attributional bias and knowledge of social information processing, experience of relational victimization, distress in relationally aggressive situations, and community engagement were not associated with aggression. Our study is one of the first to address these important questions for low-income, predominantly ethnic minority urban youth, and it has clear implications for adapting aggression prevention programs to be culturally sensitive for urban African American youth.

Aggression occurs quite frequently among adolescents, especially those living in urban impoverished communities. For instance, almost one-third of adolescents are involved in aggression and victimization (Nansel et al., 2001; Robers, Kemp, Truman, & Snyder, 2013), which are associated with a myriad of negative outcomes, including peer relationship difficulties, academic deficiencies, internalizing problems, and social problem-solving deficits (Martino, Ellickson, Klein, McCaffrey, & Edelen, 2008). Further, peer aggressors who do not receive early intervention and support have higher rates of conduct problems, antisocial behaviors, and subsequent mental health difficulties (Schaeffer, Petras, Ialongo, Poduska, & Kellam, 2003; Thompson et al., 2011), while also experiencing challenges in their interpersonal relationships as they reach adulthood (Wolke, Copeland, Angold, & Costello, 2013). These at-risk youth often experience high levels of both overt[1]

and relational (manipulating other's social standing or peer reputation through rumors and social exclusion; Crick & Grotpeter, 1995) aggression. As such, it is crucially important to better understand factors that are associated with aggression and violence.

In the next sections, we will provide the theoretical rationale for why we expect three different domains of variables to be related to aggressive behavior. The first domain consists of three social–cognitive variables including the hostile attributional bias, knowledge of social information processing (SIP) steps, and general beliefs about aggression. The second domain includes feelings of distress and perceptions of victimization, whereas the third domain includes prosocial factors such as leadership efficacy, perceptions of community involvement, and self-esteem.

SIP and the Hostile Attributional Bias

There is a large body of literature indicating that a range of social–cognitive variables, and especially deficits in these areas, are associated with aggression (e.g., Bradshaw, Rodgers, Ghandour, & Garbarino, 2009; Calvete & Orue, 2011; Pettit & Mize, 2007). For example, SIP theory suggests that aggressive youth demonstrate SIP deficits in encoding social cues, interpreting these cues (often misinterpreting others'

1. We have chosen to use the term *overt aggression* instead of *physical aggression* throughout this manuscript because overt includes both physically and verbally aggressive behaviors.

intentions as being hostile and on purpose, termed a hostile attributional bias), selecting social goals (e.g., they are more likely to have goals of being dominant or seeking revenge), generating alternative solutions within social conflict situations, evaluating potential alternative solutions, and enacting behaviors (Crick & Dodge, 1994; Vasey, Dalgleish, & Silverman, 2003). Of the social processing steps mentioned above, the hostile attributional bias (Step 2, interpretations) has received the most attention, possibly owing to research suggesting that it is associated with the development and maintenance of aggression and violence (de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). As a result, the development of interventions to address aggression among youth have often focused on social–cognitive retraining, especially emphasizing the importance of helping these at-risk youth more accurately interpret others' intentions (Second Step: Frey, Nolen, Van Schoiack Edstrom, & Hirschstein, 2005; Friend to Friend: Leff et al., 2007, 2009; Preventing Relational Aggression in Schools Everyday: Leff, Waasdorp, et al., 2010; Coping Power Program: Lochman & Wells, 2003, 2004). Further, a recent study demonstrated that a more general knowledge of SIP steps and anger management is also associated with decreases in aggression (Leff, Cassano, MacEvoy, & Costigan, 2010). Although the relationships between social cognitions and aggression have been heavily researched (e.g., Bradshaw et al., 2009; Calvete & Orue, 2011; Pettit & Mize, 2007), the majority of studies have not been conducted in the context of an urban, impoverished community composed of minority youth. Thus, this is one of the main goals for the present manuscript.

Expanding the Consideration of Social–Cognitive Factors to Include More General Beliefs About Violence

Children's general beliefs about aggression and violence is another critical social–cognitive variable to examine, especially among urban ethnic minority youth. These high-risk individuals are often exposed to high rates of violence within these neighborhoods, combined with a high percentage of single-parent homes, poverty, and limited resources, resulting in minority children being especially vulnerable to further violence, drug use, and gang involvement as they get older (Stoddard, Henly, Sieving, & Bolland, 2011; Teitelman et al., 2010). In addition, many researchers have described urban violence among African American males as being related to a combination of complex factors including attitudes and behaviors that are part of their sociocultural context (Bennett & Fraser, 2000). For instance, Bennett and Fraser indicate that perceived violations of respect like making eye contact for a split second too long and/or appearing to be scared or afraid within urban high-risk communities can reinforce a belief structure that values aggression and appearing tough in front of one's peer group. Many factors may contribute to urban adolescent minority youth developing beliefs in the importance of responding with aggression when faced with con-

flict, in order to prevent others from thinking they are "soft" or "cowardly." These include being reinforced by peers and parents who strongly value standing up for oneself and may not value as much more traditionally appropriate social participation (Fraser, 1996). In addition, children exposed to urban high-risk neighborhoods and schools may have peers who reinforce their aggressive responding toward others. In the current study, we wished to better understand whether youths' general beliefs about the use of aggression and violence would be related to aggressive behavior, above and beyond the previously demonstrated relationships between hostile attributional bias and general knowledge of SIP steps and aggression.

Peer Victimization and Distress: Associations With Aggression and Violence

Another set of important variables that have been shown to be associated with aggression and violence include indices of emotional distress and peer victimization. At a conceptual level, SIP theory posits not only that aggressive youth experience deficits at each SIP step but also that emotional processing is involved at each decision making step. Research also suggests that victims of peer aggression and violence experience a host of short- and long-term negative consequences. For instance, victims often exhibit a range of internalizing difficulties, including depression (Arseneault et al., 2006; Reijntjes, Kamphuis, Prinzie, Boelen, & Telch, 2011), loneliness and social anxiety (Juvonen & Graham, 2001), peer relationship difficulties (Hodges & Perry, 1999), and later psychological maladjustment and school problems (Graham, Bellmore, & Mize, 2006). In addition, peer victimization has also been related to increased rates of aggression and delinquency (e.g., Khatri, Kupersmidt, & Patterson, 2000; Kochenderfer-Ladd, 2003). While the majority of these studies have examined the effects of being a victim of overt aggression, more recent studies also suggest that being a victim of relational aggression is associated with a range of negative comorbidities, including an increased risk for exhibiting relationally aggressive behaviors (Sullivan, Farrell, & Kliewer, 2006). Specifically, Sullivan et al. found that being the victim of overt aggression was associated with high levels of overtly and relationally aggressive behaviors and delinquency for urban predominately African American eighth graders. Further, being the victim of relational aggression was associated with high levels of overt aggression and drug use for girls and high levels of relational aggression among boys. Some have speculated that peer victims may have limited and largely unproductive peer interactions, making them more likely to retaliate against their peers (Hanish & Guerra, 2002).

The level of distress one feels when faced with a peer conflict could influence the likelihood of displaying aggressive behaviors and may also be associated with the form (e.g., relational or overt) of conflict. Preliminary research has supported this. Crick et al. (2002) found that youth who frequently perpetrate relational aggression (e.g., excluding peers) demonstrate

more emotional distress in relational as opposed to instrumental conflicts (e.g., being bumped from behind). In contrast, those frequently involved in overt/instrumental conflict situations demonstrate greater distress in overt conflict as compared to relational conflict situations. Despite this potential link between emotional distress and aggressive responding, additional research is needed to better understand the association between emotional distress and peer conflict and aggression. As such, this is one of the goals of the current paper.

Self-Esteem, Community Engagement, and Leadership

The association between social–cognitive variables and aggression, and between feelings of distress/victimization and aggression can be explained by the SIP theoretical framework, but there are additional malleable positive variables that are also associated with aggression. Although there is not as strong of a theoretical rationale for these variables' association with aggression, prior research has demonstrated that these types of positive factors, often thought of as being protective and resilient features, are important in interventions addressing aggression. In addition, given that community stakeholders involved in our recent research indicated that they felt that many of the traditional aggression prevention programs did not adequately address leadership and community involvement, we thought that this set of prosocial variables may address a relative gap in the literature base.

Numerous studies have examined the association between overall self-esteem and a range of both positive and negative characteristics, generally finding that high self-esteem is related to positive physical and mental health, whereas low-esteem is related to delinquency, oppositional behavior, and substance abuse (e.g., Donnellan, Trzesniewski, & Robins, 2005, 2011; Fergusson & Horwood, 2002; Greenberg, 2008; Weber & Robinson Kurpius, 2011). For example, a series of studies using multiple-method, multiple-informant measures of self-esteem and externalizing problems (aggressive behavior, delinquency, and antisocial behavior) concluded that low self-esteem and a range of externalizing behaviors were associated at a small to moderate effect size (Donnellan et al., 2005), even after controlling for a range of potential confounding variables, including socioeconomic status, IQ, parent–child relationship, and peer relationships. Another study found that adolescents with lower self-esteem were at increased risk for physical and mental health difficulties, economic hardship, and being convicted of a crime as an adult (Trzesniewski, Donnellan, & Moffitt, 2006). Thus, the literature suggests that self-esteem may also be associated with aggressive behavior. At the same time, there are other areas that influence self-esteem that require examination, especially among minority youth. Specifically, community engagement and leadership self-efficacy have been shown to be an important aspect of positive social development among minority youth (e.g., Hull, Kilbourne, Reece, & Husaini, 2008), though few studies have simultaneously examined whether indices of community engagement and leadership self-efficacy are associated with reduced aggression.

Moreover, although programming to reduce aggressive youth behaviors often includes modules to improve self-esteem (Allen-Meares, Montgomery, & Kim, 2013), it often lacks explicit mechanisms for increasing community engagement and enhancing self-efficacy in leadership (Edwards, 2001). This is somewhat surprising given research suggesting positive associations between youth empowerment and positive social and emotional development (Linnenbrink & Pintrich, 2002). The lack of emphasis on constructs such as community involvement and leadership in traditional aggression prevention programs has led some researchers to speculate that aggression prevention programs may be less than optimally effective, in part because they are not directly addressing mechanisms for helping youth become more accountable leaders within their schools and neighborhoods (Edwards, 2001). This may be especially relevant for urban minority youth given research showing that in order for aggression programs to be most effective, they should emphasize the promotion of community involvement and leadership (Leff, Thomas, et al., 2010). Although additional research supports these general findings by indicating that one's feelings of empowerment and sense of responsibility are related to positive youth outcomes (Gullan, Power, & Leff, 2013), the relationship between these prosocial predictors and youth aggression has not been examined in the context of aggression prevention programming, especially for urban ethnic minority youth. As such, in the current study, we wished to better understand whether youths' perspective of their own community involvement and leadership effectiveness were related to aggressive behavior, and whether these relationships contributed to the prediction of aggression above and beyond self-esteem. If so, these relationships have important implications for the development and adaptation of aggression prevention programs to support minority youth living in impoverished community settings.

Study Goals

In the current study, we wished to examine several areas that have largely been understudied in the context of African American adolescents within urban community settings. We first hypothesized an association between the social–cognitive variables and a composite score of aggression (combined subscales of youth- and parent-reported overt aggression, externalizing behaviors, and relational aggression),[2] in which we expected more hostile attributional bias, less gen-

---

2. Analyses were initially conducted separately for (a) physical aggression and externalizing behavior subscales and (b) relational aggression subscales. Given that the pattern of findings was virtually identical and because the majority of prior studies examining social cognitions and aggression have done so for overt aggression only (e.g., Samson, Ojanen, & Hollo, 2012), we decided to conduct analyses predicting a composite measure of aggression (see Method Section).

eral knowledge of SIP and anger management, and more broad beliefs about aggression and violence to be associated with more aggressive behavior. Further, we explored the hypothesis that general knowledge of SIP and beliefs about aggression and violence would add significantly to the prediction of aggression, above and beyond the contributions of a hostile attributional bias. Second, we hypothesized that rates of overt and relational victimization and feelings of distress in social situations would be positively related to rates of aggression. We also conducted post hoc analyses to investigate whether victimization and distress contributed separately and uniquely to the model. Third, we hypothesized that a range of prosocial factors (self-esteem, community involvement, and leadership efficacy) would be negatively associated with aggression. We also wished to explore follow-up analyses to determine whether perceptions of community involvement and leadership efficacy significantly added to the prediction of aggressive behavior after accounting for self-esteem.

Following SIP theory and also given that much prior research has examined social–cognitive factors and their association with aggression, we wished to introduce the social–cognitive set of variables prior to the other domains (i.e., victimization/emotional distress and prosocial factors) in our hierarchical regression analyses. Next, we chose to include the victimization and distress variables because emotional distress/processing is often closely related to the social–cognitive variables. For example, the SIP steps include emotional processing at each step; therefore, we thought conceptually that this set of variables should be entered next in the model. Finally, we wished to examine whether a set of protective and resilience factors were associated with aggression. We predicted that the victimization/emotional distress domain and the prosocial and resilience factors domain would each explain significant variability in the prediction of aggressive behavior when entered as the second and third steps within the hierarchical regression analyses.

Method

This study is part of a larger research project involving the evaluation of a community-based youth violence prevention and leadership promotion program for 10- to 14-year-old youth in a range of after-school settings, including summer camps (Leff, Thomas, et al., 2010). The study received approval from the authors' university institutional review board. After-school sites were identified as eligible to participate if they were located within one of the target urban neighborhoods, were not currently implementing any type of violence prevention programming, and served at least 20 youth regularly. Eligible sites then participated in an organizational assessment structured interview, which was designed by the study team of researchers and community partners in order to evaluate the match between sites and the violence prevention research program (Baker, Vaughan, Barnhart-Wilson, & Leff, 2012). The information gathered during the organizational assessment structured interview is converted to a 13-

Table 1. *Participant demographics (n = 109)*

Variable	n	%
Gender		
Female	69	63.3
Male	40	36.7
Race/ethnicity		
African American	92	84.4
Asian or Asian American	1	0.9
Hispanic or Latino	3	2.8
Bi- or multiracial	13	11.9
Age (range = 9–15 years)	$M = 11.08$	$SD = 1.45$

item Likert scale with a theoretical range of 13 to 39. Scores of at least 30 on the organizational assessment rating scale generally indicate an overall program structure and clear mission, a stable leadership structure, an interest in forming partnerships to prevent youth violence, and a designated point person who could serve as the on-site leader for the program.

Six eligible sites deemed good matches by scores of at least 30 on the organizational assessment were enrolled, and the violence prevention and leadership promotion program was implemented in a systematic stepped-wedge cluster randomized trial (e.g., Brown & Lilford, 2006). Once partnered with a site, all eligible 10- to 14-year-old youth[3] who consistently attended the after-school program within the site were invited to enroll in the program. Youth who were outside the eligible age range, who did not speak English, or who had a developmental/physical disability making it difficult to complete assessment measures were excluded. The study, including details about the intervention, has been elaborated elsewhere (Leff, Thomas, et al., 2010).

Participants

Participants in the current study include 109 9- to 15-year-old youth who participated in the pretest portion of the larger research project, along with their parents or caregivers. Most youth (36.7% male) identified as African American (84.4%) or biracial or multiracial (11.9%) and were on average 11 years old. See Table 1 for youth demographic information. Caregivers of participating youth were mothers ($n = 69$), fathers ($n = 11$), both mothers and fathers ($n = 3$), grandmothers ($n = 5$), a grandfather ($n = 1$), aunts ($n = 6$), a foster mother ($n = 1$), or caregiver unspecified ($n = 13$). Although we were not able to collect specific family information from a portion of our sample,[4] caregivers completing this informa-

---

3. In order to be most responsive to the community, we included several slightly younger and slightly older children in the study. Thus, although we originally recruited 10- to 14-year-old youth, our sample actually ranged in age from 9 ($n = 16$) to 15 ($n = 1$) years old.

4. Detailed family demographic information was not collected for the first cohort of the PARTNERS study. The caregiver demographic data presented here is based on the second and third cohorts of data collection. Although we were not able to collect specific family information for all care-

tion were primarily female (86.9%), identified as African American (93.1%) or biracial or multiracial (5.2%), and were on average 44 years old. Most caregivers reported being single (48.3%), married (29.3%), or divorced/separated (19.0%). With regard to educational level, most caregivers were high school graduates (18.6%), had some college (32.2%), or had graduated from college (35.6%).

Procedure

Youth data collection. Parents consented for their children to participate in the research project. Data collection occurred at the after-school site and lasted approximately 40–50 min. Youth completed a packet of measures in small groups facilitated by trained project staff. Project staff worked with youth to determine if they were comfortable reading and responding to the items independently or if they preferred to have the items read out loud. Youth were provided with verbal praise and snacks for their participation. Pretest assessments typically occurred 1 week before the start of the intervention.

Caregiver data collection. Measure packets were sent home to caregivers via their children. Caregivers completed the measures independently either on-site or at home, depending on their preference. Caregivers received a $15 gift card to a local grocery store in appreciation for each evaluation packet they completed.

Measurement of aggression

Youth-report measures of aggressive behavior. Youth completed three self-report measures of aggression. First, they completed the 15-item Children's Social Behavior Scale—Self-Report (Crick & Grotpeter, 1995). This measure assesses youths' perceptions of their relationships with their peers and includes 5 relational and 3 overt aggression items (e.g., "When they are mad at someone, some kids get back at the person by not letting the person be in their group anymore. How often do you do this?" and "Some kids hit other kids at school. How often do you do this?"). Items are rated from 1 (*never*) to 5 (*all the time*). Relational and overt aggression subscales are created by averaging the corresponding items, with higher scores indicating more aggressive behavior. Internal consistency and construct validity have been demonstrated for this measure (see Crick & Grotpeter, 1995).

Second, youth completed a version of the five-item oppositional/defiant subscale of the IOWA Conners Teacher Rating Scale (IOWA CTRS; Loney & Milich, 1982) adapted for youth self-report. The scale is rated on a scale from 1 (*not at all*) to 4 (*very much*) and includes items such as "Lose my temper." Items are averaged, and higher scores

on the IOWA CTRS indicate more aggression. The IOWA CTRS is widely used and has been associated with strong reliability and validity (Casat, Norton, & Boyle-Whitesel, 1999; Loney & Milich, 1982; Pelham, Milich, Murphy, & Murphy, 1989). In addition, construct equivalence appears to exist between children from different ethnic groups (Reid, Casat, Norton, Anastopoulos, & Temple, 2001).

Third, youth completed the Youth Self-Report (YSR; Achenbach, 1991; Achenbach & Rescorla, 2001) aggressive behavior subscale. This 17-item subscale includes items such as "I get in many fights" that are rated on a 3-point Likert scale ranging from 0 (*not true*) to 2 (*very true or always true*). Raw scores on items were averaged to create the aggressive behavior subscale score, with higher scores indicating more aggressive behavior. Excellent reliability and validity has been demonstrated for the YSR (Achenbach, 1991; Achenbach & Rescorla, 2001), including in samples of diverse youth (Ivanova et al., 2007).

Caregiver-report measures of aggressive behavior. Parents also completed three measures evaluating youth aggressive behavior. First, they completed the Children's Social Behavior Scale—Parent Report (CSBS-Parent; Crick, 2006). This scale was developed based upon similar peer- and teacher-report measures (Crick & Grotpeter, 1995) and was subsequently adapted for parent report (Casas et al., 2006; Ostrov & Bishop, 2008; Tackett & Ostrov, 2010). Prior studies have demonstrated that the subscales of the CSBS have adequate internal consistency (Ostrov & Bishop, 2008; Tackett & Ostrov, 2010) and convergent and divergent validity (Tackett & Ostrov, 2010). The five-item relational aggression (e.g., "Your child spreads rumors or gossips about other kids") and four-item overt aggression (e.g., "Your child hits or kicks other kids") subscales utilized in this study mirror those of the youth report (Crick & Grotpeter, 1995). Items were averaged to create subscale scores, and higher scores indicate more aggressive behavior.

Second, parents completed the five-item oppositional/defiant subscale of the IOWA CTRS (Loney & Milich, 1982). The items are highly similar to those completed by youth and described above (e.g., "Has temper outbursts [explodes and has unpredictable behavior]"), and the scoring is identical.

Third, parents completed the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999). The 36-item ECBI problem intensity subscale was used in this study. The problem intensity subscale evaluates a variety of problem behaviors, including "Argues with parents about rules" and "Sasses or talks back to adults." Items are rated on a 7-point Likert scale ranging from 1 (*never*) to 7 (*always*). Scores were averaged to protect against missing data, with higher scores indicating more problem behavior. The ECBI has been used with samples including low-income urban African American youth, has demonstrated extremely strong reliability and validity, and shows moderate effect sizes in intervention studies (Kacir & Gordon, 1999; Webster-Stratton, Hollinsworth, & Kolpacoff, 1989).

---

givers in the study, it appears that the demographics of the caregivers in the first cohort approximated not only the demographics of the latter two cohorts but also the demographics of the urban community in which we were working.

Creation of the aggression composite. An aggression composite score was created from the youth-report Children's Social Behavior Scale relational and overt aggression subscales, the IOWA CTRS oppositional/defiant subscale, and the YSR aggressive behavior subscale along with the parent-report CSBS relational and overt aggression subscales, the IOWA CTRS oppositional/defiant subscale, and the ECBI problem intensity subscale. Principal axis factoring was used as a data reduction strategy (Jolliffe, 2002).[5] Creating an aggression composite score capitalizes on the multiple measures and informants utilized in this study while managing the risk of Type I error. Listwise deletion was used in the creation of the aggression composite, resulting in a sample of 109 youth.

Measurement of predictors

Social–cognitive measures. In the Cartoon-Based Hostile Attributional Bias Measure (HAB; Leff et al., 2006; Leff, Lefler, Khera, Paskewich, & Jawad, 2011) youth are asked to respond to 10 written and cartoon vignettes, 5 that depict relationally oriented social situations and 5 that illustrate overtly aggressive oriented social situations. For each vignette, youth are asked two questions used to determine a hostile attributional bias in both relationally and overtly aggressive situations. Youths' intentionality responses, indicated by their responses of "intentional" (score of 1 point) or "unintentional" (score of 0) on two questions per vignette, are then summed across the relationally or overtly provocative vignettes, with scores ranging from 0 to 10. Higher scores indicate higher levels of hostile attributional bias. The HAB has demonstrated strong psychometric properties (Leff, Cassano, et al., 2010; Leff et al., 2006, 2011); has been utilized in school-based intervention work with urban youth (Leff et al., 2009); and in the current study, is associated with internal consistencies of 0.73 and 0.83 for relational hostile attributional bias and overt hostile attributional bias, respectively.

The Knowledge of Anger Problem-Solving Measure (KAPS; Leff, Cassano, et al., 2010) is a 15-item multiple-choice test designed to assess youths' general knowledge of the steps underlying the SIP model of aggression and of anger management techniques (Crick & Dodge, 1994). Items are scored according to the key (see Leff, Cassano, et al., 2010). Scored items are summed; summed scores range from 0 to 15, with higher scores associated with more knowledge of SIP and anger management. Example questions include "If you can't tell if someone did something on purpose, what is the best thing to do?" and "Which of the following is the best way to stay calm?" Extensive item analyses of the KAPS have been conducted, and the KAPS has demonstrated strong ecological and convergent validity and adequate test–retest reliability among urban African American girls and boys (Leff, Cassano, et al., 2010; Leff, Waasdorp, et al., 2010).

Finally, the Beliefs Supportive of Violence Scale (Bosworth, Espelage, DuBay, Daytner, & Karageorge, 2000) was utilized to evaluate youths' attitudes toward aggression and violence. This six-item scale was originally adapted from the University of Texas Health Science Center Aggression Scale (Dahlberg, Toal, & Behrens, 1998; Espelage, Bosworth, & Simon, 2000, 2001) and includes items such as "If I walked away from a fight I would be a coward or a chump" and "It's okay to hit someone who hits you first." Items are rated from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores associated with stronger beliefs supportive of violence. Previous evaluations have demonstrated reliability and validity of the Beliefs Supportive of Violence Scale (Bosworth et al., 2000). Principal components analysis with varimax rotation conducted with the current sample revealed two factors (beliefs supportive of violence, beliefs supportive of nonviolent approaches to managing anger and difficult social situations). Four-item factor 1, beliefs supportive of violence, is utilized in this study. The Cronbach α for this factor is 0.54 in the current study.

Victimization and distress measures. Parents reported on youth victimization by completing the relational and overt victimization subscales of the Children's Social Experience Questionnaire (Crick, 1998), described above. This measure was adapted from Crick and Grotpeter (1996). The three-item relational victimization (e.g., "Your child is the target of rumors or gossip in the playgroup") and three-item overt victimization (e.g., "Your child gets hit or kicked by other kids") subscales are scored identically to the CSBS subscales discussed above. Both the relational and overt victimization subscales were associated with adequate internal consistency in this study, with Cronbach αs of 0.76 and 0.88, respectively.

Youth reported on their experiences of distress in the context of relationally and overtly aggressive situations using the HAB (Leff et al., 2006, 2011). For each of 10 written and cartoon vignettes, youth are asked two questions (e.g., "How upset would you be if the things in this story really happened to you?" and "How mad would you be if the things in this story really happened to you?") used to determine their level of distress. Level of distress is measured by youths' responses on a 3-point Likert scale ranging from 1 (*not at all*) to 3 (*very*). Youths' feelings of distress are summed across the relational or overt vignettes, resulting in scores ranging from 10 to 30. Higher scores indicate greater feelings of distress. Youths' distress in both the relationally and overtly aggressive situations was associated with adequate internal consistency in this study, with Cronbach αs of 0.87 and 0.74, respectively.

Prosocial measures. The Hare Area Specific Self-Esteem Scale (HSES; Shoemaker, 1980) measures self-esteem, or self-perceptions of worth and importance, across peer, home, and school contexts. The global subscale of an abbreviated, 10-item version of the HSES was utilized in this study (e.g., "I am not as popular as other people my age" and "Other people think I am a lot of fun to be with"; α = 0.73). Youth

---

5. We did not report internal consistencies at the subscale level for aggression measures, because we used them only to create the aggression composite.

rate all items on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*); the mean is calculated with higher values associated with greater self-esteem. The reliability and validity of the HSES has been supported, including in research with urban, African American adolescents (Hare, 1977; Vacek, Coyle, & Vera, 2010).

The Youth Asset Survey (YAS; Oman, Vesely, et al., 2002) evaluates eight youth developmental assets. One asset, evaluated by the six-item community involvement subscale, was utilized in this study (e.g., "You work to make your community [or neighborhood] a better place," α = 0.81). As a result of community feedback, we added the word "neighborhood" to questions that asked about the "community." Youth rate items from 1 (*not at all like you*) to 4 (*very much like you*) on a 4-point Likert scale. Items are averaged, and higher scores are associated with greater levels of community involvement. The YAS has adequate psychometric properties, including demonstrated associations with youth risk behavior, including fighting, truancy, sexual activity, substance use, and involvement with the police (Oman, McLeroy, et al., 2002; Oman, Vesely, et al., 2002).

The Leadership Questionnaire was designed for the current study in partnership with members of the target communities in order to address specific aspects of leadership thought to be of particular relevance (Leff, Thomas, et al., 2010). As such, this measure was iteratively developed with community feedback and is thought to have strong ecological validity. The nine-item leadership efficacy subscale was used in the current study (e.g., "I am able to be a good leader in my neighborhood"; α = 0.88). Youth rate all items on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*); the mean of all items is calculated, and higher values are associated with higher rates of leadership efficacy.

Analytic approach

We first evaluated descriptive statistics. Next, we fit a series of regression models, all of which controlled for gender and age.[6] In the first regression model, we predicted aggression from the social–cognitive variables. In the second regression model, we predicted aggression from youth victimization and distress. In the third regression model, we predicted aggression from the prosocial variables, including self-esteem, community involvement, and leadership efficacy. Following each regression, we also conducted post hoc analyses to determine the contribution of individual variables or sets of variables. In each case, control variables were entered in Step 1. Specifically, following the first regression model, we conducted a post hoc hierarchical regression to determine if knowledge about SIP and beliefs about violence predicted aggression

above and beyond traditional social–cognitive variables like hostile attributional bias. In this case, hostile attribution bias was entered as Step 2, knowledge about SIP was entered as Step 3, and beliefs about violence was entered as Step 4. Following the second regression, we conducted exploratory follow-up analyses to determine whether victimization and distress contributed uniquely to the prediction of aggression. In this case, we first entered victimization as Step 2 and distress as Step 3. Following the third regression, we conducted an exploratory post hoc hierarchical regression in order to determine the unique contributions of community involvement and leadership efficacy above and beyond self-esteem. In this case, we first entered self-esteem as Step 2, followed by community involvement as Step 3 and leadership efficacy as Step 4. Finally, a full regression model was fit with all of the predictors. Standardized regression coefficients are presented throughout.

Results

Descriptive statistics

Means and standard deviations of the variables used to create the aggression composite, and intercorrelations between these variables, are presented in Table 2. Youth-report measures of aggression were strongly interrelated, and these correlations were associated with medium to large effect sizes. Similarly, parent-report measures of aggression covaried; effect sizes were consistently large between parent-report measures. Relationships between youth- and parent-report measures of aggression ranged in effect size from small to medium, with the weakest relationships between the mirrored CSBS-Self and CSBS-Parent measures and the strongest relationships between the youth-report YSR and all parent-report measures. Discrepancies between youth- and parent-report measures of aggression are in line with the literature and support our conclusion to capitalize on information from both reporters when creating the aggression composite (e.g., Verhulst, Ende, & van der Ende, 1992).

Means and standard deviations of the predictor variables, and the intercorrelations between these variables, are presented in Table 3. The measures evaluating hostile attributional bias, as well as distress related to aggressive situations, tended to cluster together. Similarly, parent reports of relational and overt victimization were also intercorrelated. Knowledge of SIP was negatively associated with beliefs supportive of violence. The prosocial variables were strongly interrelated. The prosocial variables were also predictably related to the other clusters of variables; specifically, higher values on the prosocial variables were associated with more knowledge of SIP. In addition, higher self-esteem was associated with less victimization. More community involvement was associated with fewer beliefs supportive of violence and more distress in the context of relationally aggressive situations. Significant correlations between the predictor variables ranged in size from small–medium to large.

---

6. Given the well-established relationship between gender and aggressive behavior (e.g., Crick, 1997), we controlled for gender in all models. Child cognitive development has been linked to understanding and engaging in assessments and interventions targeting problem solving and other metacognitive activities; thus, we also controlled for child age in all models.

Table 2. *Descriptive statistics for and intercorrelations between the variables used to create the aggression composite*

Reporter	Variable	1	2	3	4	5	6	7	8
Youth	1. CPRS relational ($M = 1.89$, $SD = 0.87$)	—							
	2. CPRS overt ($M = 2.17$, $SD = 1.08$)	.78***	—						
	3. IOWA ($M = 1.90$, $SD = 0.57$)	.31**	.36***	—					
	4. YSR ($M = 0.41$, $SD = 0.33$)	.58***	.53***	.56***	—				
Caregiver	5. CSBS relational (parent; $M = 1.87$, $SD = 0.63$)	.08	.04	.12	.21*	—			
	6. CSBS overt (parent; $M = 1.41$, $SD = 0.58$)	.17	.13	.19*	.31***	.62***	—		
	7. IOWA ($M = 1.76$, $SD = 0.66$)	.13	.14	.17	.29**	.52***	.50***	—	
	8. ECBI ($M = 2.41$, $SD = 1.07$)	.12	.10	.09	.20*	.53***	.53***	.68***	—

Note: CPRS, Children's Social Behavior Scale, Self-Report; IOWA, IOWA Conners Teacher Rating Scale; YSR, Youth Self-Report; CSBS, Children's Social Behavior Scale; ECBI, Eyberg Child Behavior Inventory.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. *Descriptive statistics for and intercorrelations between the predictor variables*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. HAB relational ($M = 5.96$, $SD = 2.13$)	—										
2. HAB overt ($M = 4.29$, $SD = 3.10$)	.39***	—									
3. KAPS ($M = 7.45$, $SD = 2.63$)	−.01	−.09	—								
4. BSOV ($M = 2.53$, $SD = 0.86$)	.08	.16	−.27**	—							
5. CSBS relational victim. ($M = 1.90$, $SD = 0.77$)	−.13	−.03	.03	.07	—						
6. CSBS overt victim. ($M = 1.67$, $SD = 0.79$)	−.16	−.06	−.03	−.04	.74***	—					
7. HAB relational distress ($M = 19.72$, $SD = 5.05$)	.30**	.15	−.18	.18	.02	.01	—				
8. HAB overt distress ($M = 25.19$, $SD = 3.30$)	.26**	.57***	−.12	.17	−.03	−.07	.34***	—			
9. HSES ($M = 3.35$, $SD = 0.46$)	.11	−.09	.22*	−.18	−.28**	−.30**	−.06	.05	—		
10. YAS community involv. ($M = 2.68$, $SD = 0.77$)	.05	−.08	.25*	−.23*	−.07	.05	.22*	−.01	.32***	—	
11. Leadership efficacy ($M = 3.30$, $SD = 0.55$)	−.06	−.07	.31***	−.18	.12	.11	.08	−.12	.29**	.67***	—

Note: HAB, Hostile Attributional Bias Measure; KAPS, Knowledge of Anger Problem-Solving Measure; BSOV, Beliefs Supportive of Violence Scale; CSBS, Children's Social Behavior Scale; HSES, Hare Area Specific Self-Esteem Scale; YAS, Youth Asset Survey.
*$p < .05$. **$p < .01$. ***$p < .001$.

Predicting aggression from social–cognitive variables

We first fit a regression predicting the aggression composite from hostile attributional bias, knowledge of SIP, and beliefs supportive of violence, controlling for gender and age (see Table 4). Social–cognitive variables explained 12% of the variance in aggression, $F(6, 108) = 2.34$, $p < .05$. In order to better understand the unique contributions of beliefs supportive of violence above and beyond the more traditional social–cognitive measures, the associations between these variables and aggression were examined using a hierarchical linear multiple regression in the context of a post hoc analysis. Neither the addition of hostile attributional bias, $F(4, 108) = 0.49$, $p = .74$; $\Delta R^2 = .02$, $p = .44$, nor the addition of knowledge of SIP, $F(5, 108) = 1.12$, $p = .36$; $\Delta R^2 = .05$, $p = .06$, resulted in a significant improvement in fit over the model that included only the control variables. However, the addition of beliefs supportive of violence in the final step did significantly improve the fit of the model ($\Delta R^2 = .08$, $p < .01$). Thus, contrary to hypotheses, neither hostile attributional bias nor knowledge of SIP was related to youth aggression. However, as predicted, youth who reported having stronger beliefs supportive of violence were more aggressive ($b = 0.28$, $p < .01$).

Predicting aggression from victimization and distress

Next, we fit a regression predicting the aggression composite from victimization and experiences of distress in aggressive situations, again controlling for gender and age (see Table 5). Victimization and distress variables explained 20% of the variance in aggression, $F(6, 108) = 4.14$, $p < .001$, and significantly improved the fit over the control model ($\Delta R^2 = .19$, $p < .001$). In order to better understand the unique contribu-

Table 4. *Hierarchical regression predicting aggression from social cognitive variables*

Variable	B	ΔR^2
Step 1		.003
Gender	0.05	
Age	−0.02	
Step 2		.12*
Gender	0.08	
Age	−0.07	
HAB relational	0.05	
HAB overt	0.05	
KAPS	−0.11	
BSOV[a]	0.28**	

Note: HAB, Hostile Attributional Bias Measure; KAPS, Knowledge of Anger Problem-Solving Measure; BSOV, Beliefs Supportive of Violence Scale.
[a]In post hoc analyses, the hierarchical regression step including BSOV was associated with a significant increase in ΔR^2. Full model $R^2 = .12$.
*$p < .05$. **$p < .01$.

Table 5. *Hierarchical regression predicting aggression from victimization and distress*

Variable	B	ΔR^2
Step 1		.003
Gender	0.05	
Age	−0.02	
Step 2		.19***
Gender	0.02	
Age	0.13	
CSEQ relational victim.[a]	0.01	
CSEQ overt victim.[a]	0.33*	
HAB relational distress[a]	0.15	
HAB overt distress[a]	0.27**	

Note: CSEQ, Children's Social Experience Questionnaire; HAB, Hostile Attributional Bias Measure.
[a]In post hoc analyses, the hierarchical regression steps including the two victimization variables and the two distress variables were both associated with significant increases in ΔR^2. Full model $R^2 = .20$.
*$p < .05$. **$p < .01$. ***$p < .001$.

tions of victimization and distress to the prediction of aggression, the associations between these two sets of variables and aggression were examined using a hierarchical linear multiple regression in the context of two exploratory post hoc analyses. Due to the exploratory nature of this post hoc analysis, the regression first entered victimization and then distress. The addition of both victimization, $F(4, 108) = 2.28$, $p = .07$; $\Delta R^2 = .08$, $p < .05$, and emotional distress, $F(6, 108) = 4.14$, $p < .001$; $\Delta R^2 = .12$, $p < .001$, resulted in a significant improvements in fit over the model that included only the control variables. In partial support of hypotheses, youth who experienced overt victimization ($b = 0.33$, $p < .05$) and distress in overtly aggressive situations ($b = 0.27$, $p < .01$) were more aggressive. Contrary to hypotheses, aggression was not associated with youths' experiences of relational victimization and distress in relationally aggressive situations.

Predicting aggression from prosocial variables

In the next regression, we fit a model predicting the aggression composite from self-esteem, community involvement, and leadership efficacy, controlling for gender and age (see Table 6). Prosocial variables explained 22% of the variance in aggression, $F(5, 108) = 5.66$, $p < .001$. In order to better understand the unique contributions of community involvement and leadership efficacy above and beyond self-esteem, the associations between these variables and aggression were examined in a post hoc analysis using a hierarchical linear multiple regression. The addition of self-esteem to the control model significantly improved the fit, $F(3, 108) = 3.73$, $p = .01$; $\Delta R^2 = .09$, $p = .001$. As predicted, youth with higher self-esteem were less aggressive ($b = –0.24$, $p = .01$). The addition of community involvement did not significantly improve the fit of the model, $F(4, 108) = 2.91$, $p = .03$; $\Delta R^2 = .004$, $p = .48$. Thus, contrary to the hypothesis, community engagement was not associated with reductions

Table 6. *Hierarchical regression predicting aggression from prosocial variables*

Variable	B	ΔR^2
Step 1		.003
Gender	0.05	
Age	−0.02	
Step 2		.21***
Gender	0.02	
Age	−0.02	
HSES[a]	−0.24*	
YAS community involvement	0.23	
Leadership efficacy[a]	−0.46***	

Note: HSES, Hare Area Specific Self-Esteem Scale; YAS, Youth Asset Survey.
[a]In post hoc analyses, the hierarchical regression steps including HSES and leadership efficacy were both associated with significant increases in ΔR^2. Full model $R^2 = .22$.
*$p < .05$. **$p < .01$. ***$p < .001$.

in aggressive behavior. Finally, the addition of leadership efficacy in the final step resulted in a significant improvement in fit over the previous models ($\Delta R^2 = .12$, $p < .001$). Youth who reported greater leadership efficacy were less aggressive, as hypothesized ($b = –0.46$, $p < .001$).

Predicting aggression in the full model

Finally, we fit a hierarchical linear multiple regression predicting aggression from all of the predictors, controlling for gender and age, and entering the social–cognitive variables first, the victimization and distress variables second, and the prosocial variables third (see Table 7). The full model accounted for 41% of the variance in aggression, F (13, 108) = 5.16, $p < .001$. The addition of the clustered social–cognitive variables, F (6, 108) = 2.34, $p = .04$; $\Delta R^2 = .12$, $p = .01$, the victimization and distress variables, F (10, 108) = 3.60, $p < .001$; $\Delta R^2 = .15$, $p = .001$, and the prosocial variables ($\Delta R^2 = .15$, $p < .001$) each resulted in significant improvements of fit. The full model is consistent with the previous three models. Specifically, youth with stronger beliefs supportive of violence ($b = 0.20$, $p = .02$), who experience more overt victimization ($b = 0.29$, $p = .03$), and who experience greater distress in overtly aggressive situations ($b = 0.26$, $p = .02$) are more aggressive. In contrast, youth who endorse greater leadership efficacy are less aggressive ($b = –0.46$, $p < .001$). The relationship between aggression and self-esteem became nonsignificant in the full model, though in the direction of the effect remained negative, as predicted ($b = –0.15$, $p = .11$).

Discussion

A long history of research has demonstrated the importance of using a SIP model to better understand the development and maintenance of aggression (Crick, Grotspeter, & Bigbee,

Table 7. *Hierarchical regression predicting aggression from social cognitive variables, victimization and distress, and prosocial variables*

Variable	B	ΔR^2
Step 1		.003
Gender	0.05	
Age	−0.02	
Step 2		.12*
Gender	0.08	
Age	−0.07	
HAB relational	0.05	
HAB overt	0.05	
KAPS	−0.11	
BSOV	0.28**	
Step 3		.15**
Gender	0.02	
Age	0.09	
HAB relational	0.06	
HAB overt	−0.13	
KAPS	−0.08	
BSOV	0.24*	
CSEQ relational victim.	−0.03	
CSEQ overt victim.	0.35*	
HAB relational distress	0.08	
HAB overt distress	0.29*	
Step 4		.15***
Gender	0.01	
Age	0.09	
HAB relational	0.05	
HAB overt	−0.12	
KAPS	0.03	
BSOV	0.20*	
CSEQ relational victim.	0.04	
CSEQ overt victim.	0.29*	
HAB relational distress	0.09	
HAB overt distress	0.26*	
HSES	−0.15	
YAS community involvement	0.23	
Leadership efficacy	−0.46***	

Note: HAB, Hostile Attributional Bias Measure; KAPS, Knowledge of Anger Problem-Solving Measure; BSOV, Beliefs Supportive of Violence Scale; CSEQ, Children's Social Experience Questionnaire; HSES, Hare Area Specific Self-Esteem Scale; YAS, Youth Asset Survey. Full model $R^2 = .41$.
*$p < .05$. **$p < .01$. ***$p < .001$.

2002; de Castro et al., 2002; Dodge & Pettit, 2003). It is not surprising that many aggression prevention programs, addressing overt and/or relational aggression, have used social–cognitive retraining strategies to help aggressive youth learn to more effectively problem solve in social situations (e.g., Hudley & Graham, 1993; Leff et al., 2009; Leff, Waasdorp, et al., 2010; Lochman & Wells, 2003). In the current study, we wished to examine whether hostile attributions and other social–cognitive variables would be predictive of aggressive behavior in our sample of urban preadolescent and adolescent youth. As predicted, the social–cognitive domain (hostile attributions, knowledge of SIP steps, and beliefs about aggression and violence) was strongly associated with a composite score of aggression. This is consistent with prior research demonstrating that measures of social problem solving and so-

cial–cognitive beliefs are strongly associated with aggression (Crick & Dodge, 1994; Linder, Werner, & Lyle, 2010). However, follow-up testing examining the individual influence of the social–cognitive variables and their association to the composite score of aggression was somewhat surprising, in that hostile attributional biases were not significantly associated with aggression. A closer examination of the literature for urban low-income minority youth may suggest some possible explanations for this. For example, some researchers have suggested that minority youth living in violent urban neighborhoods may learn to be hypervigilant in social situations in order to ensure their safety (Stevenson, 1997). Thus, a hostile attributional bias may actually serve as a protective factor in some situations that urban, ethnic minority youth may encounter. This is consistent with prior research findings that urban minority youth often experience conflict and violence in their neighborhoods regardless of their own aggression status (Buka, Stichick, Birdthistle, & Earls, 2001).

We also examined whether knowledge of SIP steps and/or beliefs about violence more generally would be positively associated with levels of aggression. One of the strongest findings from the current study was that youth who had stronger beliefs about violence (e.g., beliefs that it is appropriate to use violence to avoid appearing cowardly) were also more likely to exhibit higher levels of aggression. This is consistent with the idea that aggression in urban, violent neighborhoods makes responding to aggression in what is traditionally thought of as more prosocial manner (e.g., ignoring, walking away, or obtaining adult help) less likely and may also place a youth at even higher risk for repeated victimization. Our findings speak to the complexity of youth violence in some urban settings and challenge the widely held premise that violence prevention interventions focused solely on social–cognitive factors will be most sufficient. It appears that, at least in part, there needs to be a greater emphasis on helping to address urban youths' beliefs about violence. This may speak to the importance of working not only with urban at-risk youth but also with parents, families, and community members who also may share these strong beliefs about the importance of aggression in violence. This is also consistent with a number of aggression prevention programs that have added parental and/or family components to their interventions (e.g., KiVa: Kärnä et al., 2011; Coping Power: Lochman & Wells, 2004; Olweus Bullying Prevention Program: Olweus & Limber, 2010).

The finding on the association between general beliefs of violence and levels of aggression may also be consistent with SIP theory. For instance, it is possible that children's general beliefs about aggression may impact their evaluation of potential responses within social conflict situations (SIP Step 5). It also could be that they represent a particular type of social goal (SIP Step 3) such as one of self-preservation, which may influence subsequent behavioral responding.

The current study suggests that focusing on youths' emotional responding may be another profitable avenue in aggression prevention and intervention development for urban

youth. Our findings suggest that emotional distress in overtly aggressive situations, as well as being a victim of overt aggression, was associated with higher levels of aggression. This finding also speaks to the complexity of aggression in urban underresourced communities and suggests that learning to modulate and regulate one's reaction to difficult social situations should continue to be an important emphasis within aggression intervention programs for urban, low-income minority youth. Although the SIP model features an exploration of how biological vulnerabilities, learning history, and social environment interact with a series of social and emotional processing cues to help determine behavior (Dodge & Pettit, 2003), some have articulated that this model does not focus enough attention on emotional processing (see Lemerise & Arsenio, 2000). Our findings suggest that feelings of distress and experiences of victimization, especially within the context of overtly provocative social situations, may play a critical but currently underemphasized role in aggression prevention programming for urban low-income minority youth.

Given recent research suggesting the importance of empowering youth to feel good about themselves and to become active leaders within their communities (e.g., Gullan et al., 2013; Leff, Thomas, et al., 2010), we predicted that a range of prosocial behaviors would be associated with less aggressive behavior. As hypothesized, higher levels of global self-esteem were associated with less aggression. It was notable that leadership efficacy beliefs added significantly to predictions of aggression, above and beyond self-esteem. At the same time, we were surprised that higher levels of community involvement were not related to lower levels of aggression. Perhaps, it is more important to view oneself as an effective leader in one's community as opposed to being merely involved in activities within one's neighborhood. When one views oneself as a leader, it may be easier to feel more invested and actively engaged within the neighborhood, and thereby less aggression is exhibited within this context. Although more research in this area is needed, our preliminary results suggest that building youths' self-confidence and providing supportive opportunities for demonstrating leadership may be extremely important components of aggression prevention programs for urban minority youth. This is consistent with recent qualitative research in which urban community residents suggested that involving youth in leadership roles within their neighborhoods was a key ingredient in violence prevention programming (Hausman et al., 2009).

We were surprised that relational victimization and distress were not associated with our composite measure of aggression. Past research suggested that these relational variables would likely be predictors of aggression (e.g., Hanish & Guerra, 2002; Sullivan et al., 2006). It could be that overt forms of victimization and distress are more salient among urban adolescent minority youth than are relational variables, thereby explaining the pattern of findings in our study. However, given the high correlations between overt and relational victimization, it is possible that when both are placed in the model, the strong associations between overt victimization and overall

aggression may mask an association between relational victimization/distress and relational aggression. This appears to be the case in the current study, when only examining the relational variables and a relational aggression composite. Replicating findings suggesting the importance of overt victimization and distress in the predictions of aggression among urban African American youth would be extremely important.

We made several methodological choices in the current study that likely impacted study results. We chose to construct an aggression composite score based upon eight different subscales from various youth- and caregiver-report indices of overt aggression, externalizing behaviors, and relational aggression. We chose to use this composite measure because much prior research has focused solely on overt aggression (e.g., Samson, Ojanen, & Hollo, 2012). We also considered forming two different aggression composite scores, one for overt aggression and externalizing behaviors and another for relational aggression. However, our initial analyses did not demonstrate notable differences on primary outcomes between these two potential dimensions, leading us to utilize an overall aggression composite score. Nevertheless, it is possible that because six of the eight subscales used in the composite were more consistent with overt aggression and externalizing behaviors than with relational aggression, our composite measure may not have been sensitive enough to identify concerns related to relational aggression. In addition, study results may also have differed if we had used peer- or teacher-reported indices of aggression, which are commonly used in school-based research. However, when working within a high-risk after-school and community-based setting there is typically less access to teachers and peers than when carrying out research in the context of the schools. It was for this reason, in part, that we decided to utilize a multiple-informant, multiple-method composite score of aggression that combined youth and parent reports. Nevertheless, future research would benefit from replicating study results across a wider range of informants.

There were several limitations in our study. First, although we are confident that our sample demographics are similar across cohorts, the lack of caregiver demographic data collected on the first cohort makes it difficult to characterize them with certainty. A second limitation was that we found only marginal internal consistency for our index measuring youths' beliefs about violence. Although our measure was based on a well-known and respected index (e.g., Bosworth et al., 2000; Dahlsberg et al., 1998; Espelage et al., 2000, 2001), our findings emphasizing the importance of beliefs

about violence over more traditional social–cognitive measures (e.g., hostile attributional bias and knowledge of SIP steps and anger management) should be interpreted with caution and replicated with another sample. Fourth, our sample consisted of urban, African American or biracial youth (greater than 95% of the sample). Although the nature of our sample should be considered a strength for understanding associations with aggression and violence among urban African American youth, it is unclear whether our results would be applicable for settings outside of urban areas and for non-African American youth.

Overall, study results highlight the complexity of aggression when it occurs within urban, underresourced community settings serving a large number of low-income minority youth. Although we did not have data on the functions of aggression in the current study, this complexity may be further explored through an examination of the functions of aggression in future studies. It could be that peer victimization is more strongly associated with reactive aggression, and beliefs about aggression are more strongly associated with proactive aggression. Future studies of urban youth would benefit from a more nuanced exploration aggression, including an examination of the distinct functions of aggression (i.e., reactive vs. proactive) and associations with both beliefs about aggression and peer victimization. This study also emphasizes that aggression prevention programs serving the needs of high-risk urban youth from these settings need to include intervention components beyond traditional SIP, such as discussions or activities addressing youths' underlying beliefs that support violence. In addition, results suggest that aggression prevention programs serving youth within these settings should also address prosocial behaviors such as self-esteem and opportunities to promote leadership, while at the same time helping youth learn to better modulate their emotions and feelings of distress in challenging social situations. Our study fills a critical gap in the literature base, by carefully examining a range of factors that may be associated with aggressive behavior for urban adolescent youth and by shedding light on several understudied variables (e.g., leadership efficacy) that have not been traditionally focused upon in the development of aggression prevention programs for youth. As our field continues to progress, it will be important to consider the importance of making cultural adaptations to aggression intervention programs for low-income urban minority youth, especially involving opportunities and support to help build the leadership skills of these at-risk and resilient youth.

References

Achenbach, T. M. (1991). *Manual for Child Behavior Checklist/4–18 and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for ASEBA school-age forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.

Allen-Meares, P. K., Montgomery, L. K., & Kim, J. S. (2013). School-based social work interventions: A cross-national systematic review. *Social Work*, *58*, 253. doi:10.1093/sw/swt022

Arseneault, L., Walsh, E., Trzesniewski, K., Newcombe, R., Caspi, A., & Moffitt, T. E. (2006). Bullying victimization uniquely contributes to adjustment problems in young children: A nationally representative cohort study. *Pediatrics*, *118*, 130–138.

Baker, C. N., Vaughan, N., Barnhart-Wilson, K. A., & Leff, S. S. (2012). *Using community-based participatory research to develop an organizational assessment to match after-school sites with a multi-component violence prevention program*. Paper presented at the Society for Prevention Research, Washington, DC.

Bennett, M. D., & Fraser, M. W. (2000). Urban violence among African American males: Integrating family, neighborhood, and peer perspectives. *Journal of Sociology & Socal Welfare*, 27, 93.

Bosworth, K., Espelage, D., DuBay, T., Daytner, G., & Karageorge, K. (2000). Preliminary evaluation of a multimedia violence prevention program for adolescents. *American Journal of Health Behavior*, 24, 268–280.

Bradshaw, C. P., Rodgers, C. R. R., Ghandour, L. A., & Garbarino, J. (2009). Social–cognitive mediators of the association between community violence exposure and aggressive behavior. *School Psychology Quarterly*, 24, 199–210. doi:10.1037/a0017362

Brown, C. A., & Lilford, R. J. (2006). The stepped wedge trial design: A systematic review. *BMC Medical Research Methodology*, 6, 54. doi:10.1186/1471-2288-6-54

Buka, S. L., Stichick, T. L., Birdthistle, I., & Earls, F. J. (2001). Youth exposure to violence: Prevalence, risks and consequences. *American Journal of Orthopsychiatry*, 71, 298–310. doi:10.1037/0002-9432.71.3.298

Calvete, E., & Orue, I. (2011). The impact of violence exposure on aggressive behavior through social information processing in adolescents. *American Journal of Orthopsychiatry*, 81, 38–50. doi:10.1111/j.1939-0025.2010.01070.x

Casas, J. F., Weigel, S. M., Crick, N. R., Ostrov, J. M., Woods, K. E., Jansen Yeh, E. A., et al. (2006). Early parenting and children's relational and physical aggression in the preschool and home contexts. *Journal of Applied Developmental Psychology*, 27, 209–227. doi:10.1016/j.appdev.2006.02.003

Casat, C. D., Norton, H. J., & Boyle-Whitesel, M. (1999). Identification of elementary school children at risk for disruptive behavioral disturbance: Validation of a combined screening method. *Journal of the American Academy of Child & Adolescent Psychiatry*, 38, 1246–1253.

Crick, N. R. (1997). Engagement in gender normative versus nonnormative forms of aggression: Links to social-psychological adjustment. *Developmental Psychology*, 33, 610–617.

Crick, N. R. (1998). *Children's Social Experience Questionnaire—Parent Report (CSEQ-PR)*. Unpublished manuscript, University of Minnesota.

Crick, N. R. (2006). *Children's Social Behavior—Parent Report*. Unpublished manuscript, University of Minnesota.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information processing mechanisms in children's social adjustment. *Psychological Bulletin*, 115, 74–101.

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66, 710–722.

Crick, N. R., & Grotpeter, J. K. (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology*, 8, 367–380. doi:10.1017/s0954579400007148

Crick, N. R., Grotpeter, J. K., & Bigbee, M. A. (2002). Relationally and physically aggressive children's intent attributions and feelings of distress for relational and instrumental peer conflicts. *Child Development*, 73, 1134–1142.

Dahlberg, L. L., Toal, S. B., & Behrens, C. B. (Eds.). (1998). *Measuring violence-related attitudes, beliefs, and behaviors among youth: A compendium of assessment tools*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.

de Castro, B. O., Veerman, J. W., Koops, W., Bosch, J. D., & Monshouwer, H. J. (2002). Hostile attribution of intent and aggressive behavior: A meta-analysis. *Child Development*, 73, 916.

Dodge, K. A., & Pettit, G. (2003). A biopsychosocial model of the development of chronic conduct problems in adolescence. *Developmental Psychology*, 39, 349–371.

Donnellan, M. B., Trzesniewski, K. H., & Robins, R. W. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science*, 16, 328–335. doi:10.1111/j.0956-7976.2005.01535.x

Donnellan, M. B., Trzesniewski, K. H., & Robins, R. W. (2011). Self-esteem: Enduring issues and controversies. In T. Chamorro-Premuzic, S. von Stumm, & A. Furnham (Eds.), *The Wiley–Blackwell handbook of individual differences* (pp. 718–746). Hoboken, NJ: Wiley–Blackwell.

Edwards, C. H. (2001). Student violence and the moral dimensions of education. *Psychology in the Schools*, 38, 249–257.

Espelage, D. L., Bosworth, K., & Simon, T. R. (2000). Examining the social context of bullying behaviors in early adolescence. *Journal of Counseling & Development*, 78, 326–333. doi:10.1002/j.1556-6676.2000.tb01914.x

Espelage, D. L., Bosworth, K., & Simon, T. R. (2001). Short-term stability and prospective correlates of bullying in middle-school students: An examination of potential demographic, psychosocial, and environmental influences. *Violence and Victims*, 16, 411–426.

Eyberg, S. M., & Pincus, D. (1999). *Eyberg Child Behavior Inventory and Sutter–Eyberg Student Behavior Inventory–Revised: Professional manual*. Odessa, FL: Psychological Assessment Resources.

Fergusson, D. M., & Horwood, L. J. (2002). Male and female offending trajectories. *Development and Psychopathology*, 14, 159–177.

Fraser, M. W. (1996). Aggressive behavior in childhood and early adolescence: An ecological-developmental perspective on youth violence. *Social Work*, 41, 347–361.

Frey, K. S., Nolen, S. B., Van Schoiack Edstrom, L., & Hirschstein, M. K. (2005). Effects of a school-based social–emotional competence program: Linking children's goals, attributions, and behavior. *Journal of Applied Developmental Psychology*, 26, 171–200. doi:10.1016/j.appdev.2004.12.002

Graham, S., Bellmore, A. D., & Mize, J. (2006). Peer victimization, aggression, and their co-occurrence in middle school: Pathways to adjustment problems. *Journal of Abnormal Child Psychology*, 34, 363–378. doi:10.1007/s10802-006-9030-2

Greenberg, J. (2008). Understanding the vital human quest for self-esteem. *Perspectives on Psychological Science*, 3, 48–55. doi:10.1111/j.1745-6916.2008.00061.x

Gullan, R. L., Power, T. J., & Leff, S. S. (2013). The role of empowerment in a school-based community service program with inner-city, minority youth. *Journal of Adolescent Research*, 28, 664–689. doi:10.1177/0743558413477200

Hanish, L. D., & Guerra, N. G. (2002). A longitudinal analysis of patterns of adjustment following peer victimization. *Development and Psychopathology*, 14, 69–89.

Hare, B. R. (1977). Black and White child self-esteem in social science: An overview. *Journal of Negro Education*, 46, 141–156.

Hausman, A. J., Hohl, B., Hanlon, A. L., Becker, J., Branas, C. C., Hayden, U. T., et al. (2009). Translating community-specified indicators of program success into measurable outcomes. *Journal of Public Health Management and Practice*, 15, E22–E30. doi:10.1097/PHH.0b013e3181af639c

Hodges, E. V. E., & Perry, D. G. (1999). Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of Personality and Social Psychology*, 76, 677–685. doi:10.1037/0022-3514.76.4.677

Hudley, C., & Graham, S. (1993). An attributional intervention to reduce peer-directed aggression among African-American boys. *Child Development*, 64, 124–138. doi:10.2307/1131441

Hull, P., Kilbourne, B., Reece, M., & Husaini, B. (2008). Community involvement and adolescent mental health: Moderating effects of race/ethnicity and neighborhood disadvantage. *Journal of Community Psychology*, 36, 534–551. doi:10.1002/jcop.20253

Ivanova, M. Y., Achenbach, T. M., Rescorla, L. A., Dumenci, L., Almqvist, F., Bilenberg, N., et al. (2007). The generalizability of the Youth Self-report syndrome structure in 23 societies. *Journal of Consulting and Clinical Psychology*, 75, 729–738.

Jolliffe, I. T. (2002). *Principal component analysis* (2nd ed.). Heidelberg: Springer.

Juvonen, J., & Graham, S. (2001). *Peer harassment in school: The plight of the vulnerable and victimized*. New York: Guilford Press.

Kacir, C. D., & Gordon, D. A. (1999). Parenting adolescents wisely: The effectiveness of an interactive videodisk parent training program in Appalachia. *Child & Family Behavior Therapy*, 21, 1–22.

Kärnä, A., Voeten, M., Little, T. D., Poskiparta, E., Kaljonen, A., & Salmivalli, C. (2011). A large-scale evaluation of the KiVa Antibullying Program: Grades 4–6. *Child Development*, 82, 311–330. doi:10.1111/j.1467-8624.2010.01557.x

Khatri, P., Kupersmidt, J. B., & Patterson, C. (2000). Aggression and peer victimization as predictors of self-reported behavioral and emotional adjustment. *Aggressive Behavior*, 26, 345–358.

Kochenderfer-Ladd, B. (2003). Identification of aggressive and asocial victims and the stability of their peer victimization. *Merrill–Palmer Quarterly*, 49, 401–425.

Leff, S. S., Angelucci, J., Goldstein, A. B., Cardaciotto, L., Paskewich, B., & Grossman, M. B. (2007). Using a participatory action research model to create a school-based intervention program for relationally aggressive girls—The Friend to Friend Program. In J. E. Zins, M. J. Elias, & C. A. Maher (Eds.), *Bullying, victimization, and peer harassment: A handbook of prevention and intervention* (pp. 199–218). New York: Haworth Press.

Leff, S. S., Cassano, M., MacEvoy, J. P., & Costigan, T. (2010). Initial validation of a knowledge-based measure of social information processing and anger management. *Journal of Abnormal Child Psychology*, 38, 1007–1020.

Leff, S. S., Crick, N. R., Angelucci, J., Haye, K., Jawad, A. F., Grossman, M., et al. (2006). Social cognition in context: Validating a cartoon-based attributional measure for urban girls. *Child Development*, 77, 1351–1358. doi:10.1111/j.1467-8624.2006.00939.x

Leff, S. S., Gullan, R. L., Paskewich, B. S., Abdul-Kabir, S., Jawad, A. F., Grossman, M., et al. (2009). An initial evaluation of a culturally adapted social problem-solving and relational aggression prevention program for urban African-American relationally aggressive girls. *Journal of Prevention & Intervention in the Community*, 37, 260–274. doi:10.1080/10852350903196274

Leff, S. S., Lefler, E., Khera, G., Paskewich, B., & Jawad, A. (2011). Preliminary examination of a cartoon-based hostile attributional bias measure for urban African American boys. *American Journal of Community Psychology*. Advance online publication. doi:10.1007/s10464-011-9461-y

Leff, S. S., Thomas, D. E., Vaughn, N. A., Thomas, N. A., MacEvoy, J. P., Freedman, M. A., et al. (2010). Using community-based participatory research to develop the PARTNERS youth violence prevention program. *Progress in Community Health Partnerships: Research, Education, and Action*, 4, 207–216. doi:10.1353/cpr.2010.0005

Leff, S. S., Waasdorp, T. E., Paskewich, B., Gullan, R. L., Jawad, A. F., MacEvoy, J. P., et al. (2010). The Preventing Relational Aggression in Schools Everyday Program: A preliminary evaluation of acceptability and impact. *School Psychology Review*, 39, 569–587.

Lemerise, E. A., & Arsenio, W. F. (2000). An integrated model of emotion processes and cognition in social information processing. *Child Development*, 71, 107–118. doi:10.1111/1467-8624.00124

Linder, J. R., Werner, N. E., & Lyle, K. A. (2010). Automatic and controlled social information processing and relational aggression in young adults. *Personality and Individual Differences*, 49, 778–783. doi:10.1016/j.paid.2010.06.029

Linnenbrink, E. A., & Pintrich, P. R. (2002). Motivation as an enabler for academic success. *School Psychology Review*, 31, 313–327.

Lochman, J. E., & Wells, K. C. (2003). Effectiveness of the coping power program and of classroom intervention with aggressive children: Outcomes at a 1-year follow-up. *Behavior Therapy*, 34, 493–515

Lochman, J. E., & Wells, K. C. (2004). The Coping Power Program for preadolescent aggressive boys and their parents: Outcome effects at the 1-year follow-up. *Journal of Consulting and Clinical Psychology*, 72, 571–578. doi:10.1037/0022-006x.72.4.571

Loney, J., & Milich, R. (1982). Hyperactivity, inattention, and aggression in clinical practice. In M. Wolraich & D. Routh (Eds.), *Advances in developmental and behavioral pediatrics* (Vol. 3, pp. 113–147). Greenwich, CT: JAI.

Martino, S. C., Ellickson, P. L., Klein, D. J., McCaffrey, D., & Edelen, M. O. (2008). Multiple trajectories of physical aggression among adolescent boys and girls. *Aggressive Behavior*, 34, 61–75. doi:10.1002/ab.20215

Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and associations with psychosocial adjustment. *Journal of the American Medical Association*, 285, 2094–2100.

Olweus, D., & Limber, S. P. (2010). The Olweus Bullying Prevention Program: Implementation and evaluation over two decades. In S. R. Jimerson, S. M. Swearer, & D. L. Espelage (Eds.), *Handbook of bullying in schools: An international perspective* (pp. 377–401). New York: Routledge/Taylor & Francis.

Oman, R. F., McLeroy, K. R., Vesely, S., Aspy, C. B., Smith, D. W., & Penn, D. A. (2002). An adolescent age group approach to examining youth risk behaviors. *American Journal of Health Promotion*, 16, 167–176.

Oman, R. F., Vesely, S. K., McLeroy, K. R., Harris-Wyatt, V., Aspy, C. B., Rodine, S., et al. (2002). Reliability and validity of the Youth Asset Survey (YAS). *Journal of Adolescent Health*, 31, 247–255.

Ostrov, J. M., & Bishop, C. M. (2008). Preschoolers' aggression and parent–child conflict: A multiinformant and multimethod study. *Journal of Experimental Child Psychology*, 99, 309–322. doi:10.1016/j.jecp.2008.01.001

Pelham Jr., W. E., Milich, R., Murphy, D. A., & Murphy, H. A. (1989). Normative Data on the IOWA Conners Teacher Rating Scale. *Journal of Clinical Child Psychology*, 18, 259.

Pettit, G. S., & Mize, J. (2007). Social–cognitive processes in the development of antisocial and violent behavior. In D. J. Flannery, A. T. Vazsonyi, & I. D. Waldman (Eds.), *The Cambridge handbook of violent behavior and aggression* (pp. 322–343). New York: Cambridge University Press.

Reid, R., Casat, C. D., Norton, H. J., Anastopoulos, A. D., & Temple, E. P. (2001). Using behavior rating scales for ADHD across ethnic groups: The IOWA Conners. *Journal of Emotional and Behavioral Disorders*, 9, 210–218. doi:10.1177/106342660100900401

Reijntjes, A., Kamphuis, J. H., Prinzie, P., Boelen, P. A., & Telch, M. J. (2011). Prospective linkages between peer victimization and externalizing problems in children: A meta-analysis. *Aggressive Behavior*, 37, 215–222. doi:10.1002/ab.20374

Robers, S., Kemp, J., Truman, J., & Snyder, T. D. (2013). *Indicators of school crime and safety: 2012* (NCES Report 2013-036/NCJ 241446). Retrieved from http://nces.ed.gov/programs/crimeindicators/crimeindicators2012/index.asp

Samson, J. E., Ojanen, T., & Hollo, A. (2012). Social goals and youth aggression: Meta-analysis of prosocial and antisocial goals. *Social Development*, 21, 645–666. doi:10.1111/j.1467-9507.2012.00658.x

Schaeffer, C. M., Petras, H., Ialongo, N., Poduska, J., & Kellam, S. (2003). Modeling growth in boys' aggressive behavior across elementary school: Links to later criminal involvement, conduct disorder, and antisocial personality disorder. *Developmental Psychology*, 39, 1020–1035. doi:10.1037/0012-1649.39.6.1020

Shoemaker, A. L. (1980). The Hare Self-Esteem Scale. *Educational and Psychological Measurement*, 40, 495–501.

Stevenson, H. C. (1997). "Missed, dissed, and pissed": Making meaning of neighborhood risk, fear and anger management in urban black youth. *Cultural Diversity and Mental Health*, 3, 37–52. doi:http://dx.doi.org/10.1037/1099-9809.1033.1031.1037

Stoddard, S. A., Henly, S. J., Sieving, R. E., & Bolland, J. (2011). Social connections, trajectories of hopelessness, and serious violence in impoverished urban youth. *Journal of Youth and Adolescence*, 40, 278–295. doi:10.1007/s10964-010-9580-z

Sullivan, T. N., Farrell, A. D., & Kliewer, W. (2006). Peer victimization in early adolescence: Association between physical and relational victimization and drug use, aggression, and delinquent behaviors among urban middle school students. *Development and Psychopathology*, 18, 119–137. doi:10.1017/s095457940606007x

Tackett, J. L., & Ostrov, J. M. (2010). Measuring relational aggression in middle childhood in a multi-informant multi-method study. *Journal of Psychopathology and Behavioral Assessment*, 32, 490–500. doi:10.1007/s10862-010-9184-7

Teitelman, A., McDonald, C. C., Wiebe, D. J., Thomas, N., Guerra, T., Kassam-Adams, N., et al. (2010). Youth's strategies for staying safe and coping with the stress of living in violent communities. *Journal of Community Psychology*, 38, 874–885. doi:10.1002/jcop.20402

Thompson, R., Tabone, J. K., Litrownik, A. J., Briggs, E. C., Hussey, J. M., English, D. J., et al. (2011). Early adolescent risk behavior outcomes of childhood externalizing behavioral trajectories. *Journal of Early Adolescence*, 31, 234–257. doi:10.1177/0272431609361203

Trzesniewski, K. H., Donnellan, M. B., & Moffitt, T. E. (2006). Low self-esteem during adolescence predicts poor health, criminal behavior, and limited economic prospects during adulthood. *Developmental Psychology*, 42, 381–390. doi:10.1037/0012-1649.42.2.381

Vacek, K. R., Coyle, L. D., & Vera, E. M. (2010). Stress, self-esteem, hope, optimism, and well-being in urban, ethnic minority adolescents. *Journal of Multicultural Counseling and Development*, 38, 99–111.

Vasey, M. W., Dalgleish, T., & Silverman, W. K. (2003). Research on information-processing factors in child and adolescent psychopathology: A critical commentary. *Journal of Clinical Child & Adolescent Psychology*, 32, 81–93.

Verhulst, F. C., Ende, J. V. D., & van der Ende, J. (1992). Agreement between parents' reports and adolescents' self-reports of problem behavior. *Journal of Child Psychology & Psychiatry*, 33, 1011–1023.

Weber, D., & Robinson Kurpius, S. (2011). The importance of self-beliefs on relational aggression of college students. *Journal of Interpersonal Violence*, 26, 2735–2743. doi:10.1177/0886260510388287

Webster-Stratton, C., Hollinsworth, T., & Kolpacoff, M. (1989). The long-term effectiveness and clinical significance of three cost-effective training programs for families with conduct-problem children. *Journal of Consulting & Clinical Psychology*, 57, 550–553. doi:10.1037/0022-006x.57.4.550

Wolke, D., Copeland, W. E., Angold, A., & Costello, E. J. (2013). Impact of bullying in childhood on adult health, wealth, crime, and social outcomes. *Psychological Science*. doi:10.1177/0956797613481608