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Emotional Awareness, Empathy, and Generosity in High Risk Youth

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Abstract

Although maltreatment places youths at risk for substantial deficits in prosociality, effective methods of improving these deficits have yet to be identified. The current investigation tested whether prosociality could be enhanced in maltreated youths by increasing their awareness of others' sadness. Maltreated youth ($n = 145$) and matched community youth ($n = 106$) aged 6–17 years completed a sharing task within which labels about a peer's emotions (sad vs. neutral) were experimentally manipulated. Youth who received the sad emotion label about a peer's feelings showed greater empathic concern, and in turn generosity, toward that peer than youth who received the neutral label. Findings offer new insight into potential methods of improving prosocial responding in youths and thus provide direction for intervention efforts.

Keywords

Prosociality; empathy; emotion feedback; maltreatment

Prosociality—behavior intended to help or benefit others—is integral to our ability as humans to connect and build close social relationships with others. Prosociality motivates cooperation, reduces conflict, and confers a range of benefits on interpersonal health and well-being (Batson et al., 2015; Eisenberg et al., 2015). These benefits emerge early in life. For children and adolescents (“youth”), benefits are evident in the links between prosociality and social competence, peer acceptance, and psychological well-being, and in the protection prosociality affords against the development of externalizing problems (Aknin et al., 2012; Eisenberg et al., 2015; Layous et al., 2012).

Despite the importance of prosociality for forming and maintaining positive social relationships, some youth show pronounced deficits in their ability to act prosocially toward others. Maltreated youths comprise one such group. They tend to be less sensitive to the

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needs of others than nonmaltreated youth, act less compassionately and cooperatively, and often react with hostility toward others' distress (Alink, Cicchetti, Kim, & Rogosch, 2012; Anthonysamy & Zimmer-Gembeck, 2007; Carvalho, Maciel, & Basto-Pereira, 2020; Koenig, Cicchetti, & Rogosch, 2004; Yu, Li, & Zhao, 2020). Together, these tendencies impede these youths' ability to connect and form strong relationships with others. Although deficits in prosociality have been consistently observed in maltreated youth (e.g., Alink et al., 2012; Klimes-Dougan & Kistner, 1990; Koenig et al., 2004), little is known about the processes underlying the deficits or whether these processes are amenable to change, especially in ways that actually improve prosociality. We sought to provide this knowledge in the present investigation by systematically testing whether increasing the salience of others' emotional states—and hence youths' awareness of others' emotions—enhances youths' prosociality toward others. We further examined whether the evident benefits of youths' improved emotional awareness on prosociality were mediated by increases in their empathic concern. Finally, we included both maltreated and community-matched youth to assess whether increasing the salience of others' emotions, and its hypothesized effects on empathic concern and prosociality, was especially beneficial to maltreated youth, who often show limited prosocial tendencies (Alink et al., 2012; Anthonysamy & Zimmer-Gembeck, 2007; Yu et al., 2020).

Prosociality includes a range of helping, sharing, and comforting behaviors, some of which may be altruistic in that they are enacted without the expectation of personal gain (Eisenberg et al., 2016). Definitionally, prosociality is a response that arises out of a recognition of the needs of others combined with knowledge of how to act and the motivation to do so (Edwards et al., 2005). Acting prosocially, therefore, requires, at least in part, an awareness or understanding of what another is feeling, especially their feelings of sadness or distress. These feelings, if understood, can give rise to feelings of concern and compassion (i.e., empathic concern; Batson, 2011) and in turn, a desire to act in ways that promote the other's welfare (Eisenberg et al., 2015; Feshbach, 1975; Hoffman, 1987).

Although basic forms of prosociality, and underlying capacities (e.g., emotion understanding, empathy), are evident as early as the first few years of life (Davidov et al., 2016; Roth-Hanania et al., 2011), these tendencies undergo considerable developmental change across childhood and into adolescence. Prosocial behavior becomes more complex, diverse, and frequent with age, likely a result of both social experience and age-related advances in socio-cognitive and socio-emotional skills (Eisenberg & Fabes, 1998). These advances allow youth to gradually gain a more sophisticated understanding of others' thoughts and experiences, the capacity to engage in higher-order moral reasoning, and the ability to regulate their behaviors, feelings, and impulses, including in response to others (Eisenberg et al., 2010). Combined with developmental improvements in recognizing and understanding emotions and in empathizing with others (Eisenberg et al., 2014; Pons & Harris, 2005), these advances attune youth to others' needs and emotional experiences and likely contribute over time to their growing capacity for prosociality (Silke, Brady, Boylan, & Dolan, 2018).

Yet, environmental experiences also play a role in the development of capacities underlying prosocial behaviors. Indeed, considerable evidence indicates that youth exposed to chronic

maltreatment in the home often exhibit a reduced awareness of others' emotional states and experiences and at times fail to develop more advanced emotional awareness abilities (Ardizzi et al., 2015; Jedd et al., 2015; Pollak, Cicchetti, Hornung, & Reed, 2000; Wismer Fries & Pollak, 2004). Specifically, compared with nonmaltreated youth, maltreated youth tend to be less sensitive to the needs and experiences of others, show deficits in cognitive and affective perspective taking, and exhibit alterations in their processing of others' emotions (Burack et al., 2006; Pears & Fisher, 2005). These tendencies often manifest as a hypervigilance to threat, leading maltreated youth to over-attend to cues of anger in their environment rather than attending to emotions that are potentially less salient to the maltreating context, notably those signaling distress (Pollak, Klorman, Thatcher, & Cicchetti, 2001; Shackman, Shackman, & Pollak, 2007). In combination, the attentional biases contribute to difficulties in recognizing fear and pain in others, especially among those also high in callous-unemotional traits (Kimonis, Frick, Cauffman, Goldweber, & Skeem, 2012; Kyranides, Fanti, Petridou, & Kimonis, 2020).

More relevant to the proposed research, maltreatment is further linked to broad deficits in youths' awareness of sadness in others. When shown images of emotional expressions, maltreated youth often mislabel sad expressions as angry. They also require much more perceptual information than non-maltreated youth to accurately identify sadness in others (e.g., Pollak et al., 2000; Pollak & Sinha, 2002; Shipman et al., 2005; Wismer Fries & Pollak, 2004). And finally, when asked to explain how situations might provoke particular emotions or to generate appropriate responses to the emotional experiences of others, maltreated youth have difficulty understanding the conditions under which sad feelings emerge or are expressed and at times react inappropriately to others' displays of sadness (Edwards et al., 2005; Pears & Fisher, 2005; Perlman, Kalish, & Pollak, 2008; Pollak et al., 2000; Rogosch et al., 1995).

Sadness, however, is a particularly evocative emotion for eliciting empathy toward others, communicating others' helplessness and vulnerability (Smith & Lazarus, 1993). Empirical work shows, for instance, that their awareness of sadness in others often leads children and adults to empathize with others, with empathic concern then mediating prosocial behavior meant to alleviate others' distress (Bandstra et al., 2011; Ekerim-Akbulut et al., 2020; Harrison et al., 2007; Hendriks & Vingerhoets, 2006; Vingerhoets et al., 2016; Williams et al., 2014). At the same time, difficulty comprehending sadness in others has been found to underlie deficits in empathic and prosocial behavior in several high-risk populations (Blair & Coles, 2000; Martin-Key et al., 2017), including those (e.g., children with callous-unemotional traits or disruptive behavior problems) often associated with maltreatment exposure (Kimonis et al., 2013; Metcalf et al., 2020; Tatar et al., 2012). Given the role that the awareness of sadness in others plays in evoking empathic and prosocial behavior, it is possible that maltreated youths' apparent deficits in empathic and prosocial responding may be at least partly rooted in their difficulties detecting sadness. Stated another way, maltreated youth may fail to react empathically and prosocially toward others not because they are less prosocial per se but instead because they fail to notice a key emotion, namely sadness, that gives rise to empathy and in turn prosociality.

Evidence from a small investigation of youth in Swaziland supports this possibility (Quas et al., 2017). Foster youth (i.e., those living in congregate foster shelters or villages) and comparison youth (i.e., those living with a parent attending a middle-class school) were asked about their perceptions of emotions depicted in ambiguous social scenes. The foster youths saw less sadness and more anger in individuals depicted in the images and reported less empathic concern for those individuals. The foster youths' lower perceptions of sadness, moreover, mediated the associations between maltreatment status and lower empathic concern, providing support for the notion that at least one mechanism through which maltreatment may reduce empathic responding is via impairments in youths' awareness of sadness in others. Again, this evidence is in line with findings reported with other high-risk samples, including those often associated with a history of maltreatment (e.g., conduct disordered youth, those with callous-unemotional traits), who show comparable reductions in their attention to and detection of others' sadness and lower empathy and prosociality as a result (Blair & Coles, 2000; Martin-Key et al., 2017).

Insofar as difficulties detecting sadness underlie broader deficits in empathy and prosociality observed in maltreated youth (rather than for example, maltreated youth simply lacking in these capacities), improving this detection, even if just by increasing youths' awareness of sadness, should enhance their empathy and prosociality. While a direct test of this possibility has yet to be conducted with maltreated youth, research with lower risk samples hints that such effects are likely. For instance, drawing attention to sad emotions in others (e.g., by showing images or videos of sad versus neutral individuals) or situations leading to another person's distress increases empathic concern and subsequent generosity (e.g., sharing, donating behavior) in normative populations of children and adults (Barraza & Zak, 2009; Vaish et al., 2009; Williams et al., 2014). Indeed, such is a core principle in fund-raising and philanthropic campaigns, which regularly manipulates emotional expressions of vulnerable individuals in charity advertisements to induce sympathy and increase donating behavior (e.g., Small & Verrochi, 2009).

Implicit in these manipulations is the assumption that children and adults recognize the manipulated expressions, particularly sadness or distress in others. For maltreated youth, this assumption might not be valid, given that they routinely fail to detect sadness in others' facial expressions (e.g., Pollak et al., 2000). More concrete methods of promoting maltreated youths' awareness of others' emotions, especially sadness, might be needed. For instance, maltreated youth may need emotions to be explicitly identified or labeled in order to more easily detect them. Emotion labeling with other high-risk populations who have deficits in emotion understanding and empathic behavior (e.g., children and adults with autism, youth with conduct disorder) can improve emotional awareness (Baron-Cohen, Golan, & Ashwin, 2009; Golan & Baron-Cohen, 2006; Hubble et al., 2015), although whether such improvements lead to subsequent increases in empathic or prosocial behavior is not clear. We specifically tested the latter possibility, evaluating whether labeling others' emotional states enhances maltreated youths' awareness of sadness in others and subsequent prosocial functioning. We further evaluated whether these links were mediated via improvements in empathic concern.

Present Study

Maltreated youth, ages 6–17 years old, including those with a history of maltreatment and those from a community matched sample, completed an experimental manipulation in which they either received or did not receive information (i.e., an emotion label) describing a peer's sad emotional state. Youth were then asked questions about their empathy for that peer, and their prosocial behavior (i.e., generosity) toward the peer was examined.

Based on extant research, we expected youth who received information about the peer's sad emotional state to report greater subsequent empathic concern and behave more generously toward that peer than youth who received no such information. We further anticipated that these effects would be especially pronounced among maltreated youth, given their greater room for improvements in empathy and prosociality and their greater need for emotion labeling to help increase their awareness of others' emotions. We also predicted a mediational model, whereby increases in empathic concern would mediate the effects of emotion labeling on youths' generosity. Finally, we explored, but did not have specific hypotheses about, differences in the effects of emotion labeling as a function of youth age and gender.

Methods

Participants.

The final sample was comprised of 251 children and adolescents, ages 6–17 years ($M = 11.92$, $SD = 3.27$; 51% male). A majority of the sample identified as Latinx (58%), followed by multi-ethnic (14%), White (11%), Black (7%), Asian (2%), and “other” ethnicity (5%). Seven youth did not report on their ethnicity. Youth were considered eligible for participation if they were capable of communicating in English and had no observable cognitive disability. An additional nine youth started the study but did not complete all procedures (most often due to scheduling difficulties) and are thus not included in the final sample. Power analysis confirmed that the final sample size was sufficient to detect medium between-subject and mediated effects with a type 1 error rate of .05 and 80% or higher power (see Fritz & Mackinnon, 2007; Preacher et al., 2007).

Youth in the maltreated sample ($n = 145$; 54% male; 55% Latinx) were recruited from a temporary residential facility in the western U.S. for children and adolescents removed from parental custody due to substantiated maltreatment. All youth had been residing at the facility for at least three days. Of youth who had available placement data ($n = 115$), almost half (49%) were in the first placement of their current case (some had prior cases), while the remaining youth had experienced multiple prior placement changes ($M = 3.54$ changes, $SD = 4.72$, range = 1–29). Youth had spent on average 927 days in foster care ($SD = 1,465$ days, range = 3 – 6,356 days). Of youth who had available maltreatment data ($n = 109$; see Procedures and Materials for coding), 40% had experienced physical abuse, 24% had experienced sexual abuse, and all youth had experienced some form of neglect. Consistent with prior work (Manly, 2005), more than half of youth had experienced more than one form of maltreatment, with 40% having been exposed to two forms of maltreatment and 12% having been exposed to all three forms ($M = 1.64$, $SD = 0.68$). Because the maltreated youth

were no longer in parental custody, the Presiding Judge of Juvenile Court granted permission for them to be approached and invited to participate. Staff confirmed youths' interest and availability on each day of data collection. Youth provided written assent.

Youth in the community sample ($n = 106$; 50% male; 61% Latinx) were recruited from neighborhoods demographically equivalent to those from which the maltreated sample had been removed, determined by matching neighborhoods and zip codes (pre-removal for the maltreated youth) between samples (for similar procedures, see Malloy et al., 2014). Eligibility criteria were identical between samples, with the added requirement that youth in the community sample had always lived with at least one parent. This criterion reduced the possibility that the community youth had endured maltreatment severe enough to result in their removal from caregiver custody but did not preclude potential experiences of maltreatment. Such experiences would only attenuate differences between maltreated and community youth. Parents of community youth provided written informed consent and youth provided written assent.

Procedure and Materials

The University's Institutional Review Board approved of all study procedures. After consent and assent were obtained, youth completed a series of questionnaires and activities during an in-person session that lasted approximately one half hour. Interviews were conducted in a quiet, semi-private location by a trained research assistant.

Demographic Information.—Youth were first asked to provide basic demographic information, including their age, gender, ethnicity, and grade in school.

Emotion Feedback Manipulation and Behavioral Generosity Task.—Youth then completed a candy-sharing task (adapted from Cowell & Decety, 2015; Cowell et al., 2015), during which they were randomly assigned to an emotion label or control condition. Candy sharing tasks have been routinely employed in research on prosociality in children, adolescents, and even adults (e.g., Campbell et al., 2004; Ongley & Malti, 2014; Piff et al., 2012), and pilot testing confirmed that candy was a salient incentive across the wide age range (i.e., ages 6–17 years) comprising our sample.

The task began with screening items to ensure that youth liked cherry jolly ranchers (a low-allergen, popular treat) (0 = *no*, 1 = *yes*) and to identify how often they received candy (0 = *never*, 1 = *sometimes*, 2 = *a lot*). Youth were told that candy is given to each participant, and that they could select as many pieces of candy as they wanted. They were then told that the next youth, a peer (anonymous, gender matched to the participant), would only receive whatever candy is left over. Youth in the emotion label condition ($n = 131$) received added instruction that the peer was very sad because of some negative events that happened that week (e.g., "I heard that his/her dog ran away and his/her grandma is sick. He/she is so sad!"). Youth in the control condition ($n = 120$) did not receive any information about the peer's emotional state or circumstances. After hearing these instructions, youth were given a closed box with 9 pieces of candy in it. They privately chose however many pieces of candy they wanted. After making their selection, they were reminded to close the box and it was put away. The number of candies left behind for the peer was later recorded (range = 0–9).

Self-Report Cognitive, Behavioral, and Emotional Functioning.—Youth were administered widely-used measures of their cognitive, behavioral, and emotional functioning. Such measures were included as potential covariates, given that each of these aspects of functioning have been related to empathic concern and prosocial behavior in youth and often differ between maltreated and community youth (e.g., Alink et al., 2012; Koenig & Cicchetti, 2004). Measures included the Digit Span task, a well-validated, brief measure of working memory for children ages 6–16 (WISC-IV; Wechsler, 2003). Working memory (and other aspects of executive function) supports youths' ability to process social information and behave in ways compatible with rules and norms, and is often positively associated with empathic responding (for a meta-analysis, see Yan et al., 2020). The Digit Span includes both simple (Digit Span Forward) and complex (Digit Span Backward) tasks. In the present study, the simple task was administered, given evidence that both simple and complex tasks load on the same factor (e.g., Colom et al., 2005; Engle et al., 1999). Youth were read aloud sequences of digits at a rate of approximately one digit per second by a trained research assistant and were asked to repeat the sequences verbatim. Sequence length progressively increased until youth failed two presentations of the same length within a trial. Age-standardized scores were created for the total number of digit strings correctly recalled, with higher scores reflecting greater working memory capacity relative to youth age (Cronbach's $\alpha = .77$ in the present study).

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997), a brief self-report measure of behavioral functioning, was also administered. Of interest was the prosocial behavior scale, which assesses youths' general tendencies toward caring, considerate, and helpful behavior. Youth rated how true statements are of them (e.g., "I try to be nice to others. I care about their feelings") based on 3-point scales, 0 (*never true*) to 2 (*very true*). Items were averaged to yield a composite score. Higher scores reflect greater prosocial tendencies. Cronbach's $\alpha = .63$ was comparable to that reported in other studies with similar adversity-exposed samples (e.g., Milojevich et al., 2018).

Finally, youth completed an abbreviated version of the Trauma Symptoms Checklist for Children (TSCC; Briere, 1996; Wherry et al., 2016). Youth rate the frequency (ranging from 0 = *never* to 3 = *almost all the time*) with which they experienced various trauma-related symptoms that fall into five clinical categories: anxiety (e.g., "Feeling nervous or jumpy inside"), depression (e.g., "Feeling sad or unhappy"), anger (e.g., "Getting mad and can't calm down"), post-traumatic stress (e.g., "Can't stop thinking about something bad that happened to me"), and disassociation (e.g., "Feeling like things aren't real"). The scale contains 29 items, however the "sexual concerns" subscale ($n = 5$; sexual preoccupation and distress) was omitted to reduce the possibility of retraumatization, leading to a 24-item scale. Responses were averaged to yield a total score; higher scores reflect greater symptoms of psychopathology (Cronbach's $\alpha = .89$, see Wolfe et al., 2004, for comparable values).

Self-Report Emotional Awareness and Empathy.—After completing the study questionnaires, youth were asked follow-up questions regarding the candy-sharing task. Specifically, youth were asked how the peer felt via an open-ended question, "How did he/she feel? What was going on with him/her?", and how much empathic concern they felt for the peer via a 21-point pictorial scale used in prior work on empathic concern in children

and adolescents (Li et al., 2013; Quas et al., 2017). The scale shows a face with a large smile on one side and large frown on the other (with a neutral midpoint). Youth indicated how good or bad they felt for the peer. Higher scores reflect greater feelings of concern for others.

Maltreatment History.—Abbreviated social service records provided details regarding youths' current and prior child welfare case histories. Records were reviewed by trained research assistants or doctoral students and coded according to the Maltreatment Classification System (MCS; Barnett et al., 1993), a well-validated and reliable method of classifying child maltreatment experiences (English et al., 2005). The MCS utilizes a range of information available in social services records rather than relying solely on official designations or case dispositions to produce independent determinations of maltreatment. The MCS contains operational criteria to code the major subtypes of maltreatment: neglect (i.e., failure to provide for children's basic physical needs or supervision), physical abuse (i.e., intentional infliction of physical injury), sexual abuse (i.e., attempted or actual sexual contact, including exposure to pornography or adult sexual activity) and emotional maltreatment (i.e., extreme thwarting of emotional needs, including needs for psychological safety, acceptance, self-esteem, and age-appropriate autonomy). Before independently coding cases based on these criteria, coders first established acceptable reliability on a subset of cases (Ks ranged from .83 to .93). Based on the MCS criteria (and as mentioned in the sample description), 40% had experienced physical abuse (regardless of others forms of maltreatment), 24% had experienced sexual abuse (regardless of other forms of maltreatment), and all youth had experienced some form of neglect.

Results

Preliminary Analyses

Descriptive statistics for and correlations among main study variables are presented in Table 1. Maltreated and community youth did not differ in age, gender, ethnicity (i.e., Latinx v. non-Latinx), or condition assignment (i.e., emotional label or control condition), $t(249) = -0.94, p = .35, \chi^2(1) = .95, ps = .33$. With regard to psychological functioning, the groups only differed marginally in total post-traumatic stress symptoms per the TSCC, with maltreated youth reporting slightly more symptoms ($M = 0.94, SD = 0.49$) than community youth ($M = 0.85, SD = 0.40$), $t(246) = -1.68, p = .09$. Follow-up examination of the individual subscales of the TSCC, however, revealed, as might be expected, that maltreated youth reported significantly higher depressive ($M = 0.67, SD = 0.52$) and dissociative symptoms ($M = 0.85, SD = 0.62$) than community youth ($M_s = 0.52$ and $0.71, SD_s = 0.38$ and 0.45 , respectively), $t_s(248-249) = -1.99, ps = .048$, and marginally higher post-traumatic stress symptoms ($M = 1.32$ versus $M = 1.18$), $t(248) = -1.66, p = .09$. The groups did not differ in anger ($M = 0.70$ and 0.65 , respectively) or anxiety ($M = 1.11$ and 1.07 , respectively), $ps = .55$, likely contributing to the lack of group differences in overall psychological functioning. The groups did differ in cognitive functioning in the expected direction: Maltreated youth ($M = 4.85, SD = 2.67$) scored below community youth ($M = 9.13, SD = 3.16$) on the Digit Span task, $t(247) = 11.53, p < .001$. Maltreated and community youth did not differ in how much they enjoyed candy, $\chi^2(1) = .93, p = .33$, but

did differ in how often they received candy, with maltreated youth ($M = 0.96$, $SD = 0.60$) tending to receive candy less often than community youth ($M = 1.27$, $SD = 0.60$), $t(246) = 4.07$, $p < .001$. Random assignment was also successful. No significant differences emerged between youth assigned to the two conditions in demographics or cognitive, psychological, or behavioral functioning, $t_s(247-249) = .43$, $p_s = .67$, $\chi^2_s(1) = 1.85$, $p_s = .17$.

Correlations among main study variables revealed that age was positively associated with youths' generosity, indexed by the number of candies left behind for a peer, $r(259) = .14$, $p = .04$, and negatively associated with youths' reported empathic concern for that peer, $r(249) = -.20$, $p = .001$. Accounting for age, empathic concern was positively associated with youths' generosity, $r(246) = .13$, $p = .04$, as might be expected. Cognitive functioning was also related to youths' generosity, with the number of candies youth left behind increasing as age-normed performance improved on the Digit Span task, $r(249) = .24$, $p < .001$. Youths' willingness to share candy with a peer was negatively associated with the extent to which they liked the candy (i.e., cherry jolly ranchers), $r(249) = -.19$, $p = .003$, but unrelated to how often they received candy, $p > .05$. Gender was negatively associated with age, $r(249) = -.19$, $p = .003$ (i.e., older youth were more likely to be female), but was unrelated to youth empathic concern or generosity during the candy task, $p_s = .06$. Ethnicity, overall psychological functioning, and general prosocial tendencies were also unrelated statistically to youths' empathic concern and generosity, $p_s > .05$ (although anger, assessed via the TSCC anger subscale, was negatively associated with generosity, $r = -.13$, $p = .03$). In light of these trends, age, age-normed Digit Span, and the extent to which children liked the candy were included as covariates in subsequent analyses.

Another set of preliminary analyses examined how specific experiences within the maltreated sample related to the study outcomes. Maltreated youths' empathic concern and generosity during the candy task were unrelated to maltreatment subtype, number of maltreatment subtypes (i.e., co-occurrence of maltreatment), number of placement changes, or length of time in foster care, $t_s(106-115) = .17$, $p_s = .08$. These findings were somewhat unexpected and should be interpreted cautiously in light of the relatively small sample size ($n = 102$).

Finally, preliminary analyses ensured that the emotion manipulation was successful. In response to the open-ended question about the peer's feelings (i.e., "How did he/she feel? What was going on with him/her?"), a majority of youth in the emotion label condition (75%) reported that the target youth felt sad, and a majority in the control condition (75%) indicated that they "didn't know" how the youth felt (the remaining 25% of youth in each condition provided a random response or no response). Both of these proportions, compared separately via Chi-square goodness of fit tests, were at levels significantly greater than chance, $\chi^2(1) = 62.55$, $p_s < .001$. When responses were examined by group (i.e., maltreatment status), no significant differences emerged between maltreated and community youth, including by condition, suggesting that the manipulation was successful for both groups, $\chi^2_s(1) = 1.40$, $p_s = .24$.

Main Analyses

Effects of emotion labeling on prosocial behavior.—Our first goal was to evaluate whether emotion labeling led to direct increases in maltreated and community youths' generosity toward a peer. An ANCOVA, with youths' sharing behavior (i.e., the number of candies left for the peer) as the dependent measure, and emotion label condition (0 = control, 1 = sad emotion condition), maltreatment status (0 = community, 1 = maltreated), and their interaction as predictors, was conducted. Age, Digit Span performance, and the extent to which youth liked candy were covaried.

Somewhat surprisingly, emotion labeling was not significantly predictive of youths' subsequent generosity toward a peer, $F(1, 238) = .20, p = .65, \eta_p^2 = .001$, nor was the emotion labeling X maltreatment status interaction, $F(1, 238) = .06, p = .81, \eta_p^2 < .001$ (see Table 2). Main effects of maltreatment, age, cognitive functioning, and youths' ratings of whether they liked the candy, did, however, emerge as significant. Maltreated youth shared less candy overall, $M = 5.98, SE = .18, 95\% \text{ CI } [5.64, 6.33]$, than community youth, $M = 6.59, SE = .21, 95\% \text{ CI } [6.18, 7.02]$, $F(1, 238) = 4.08, p = .04, \eta_p^2 = .02$. In addition, consistent with preliminary correlations, age and cognitive functioning, $F_s(1, 238) = 4.22, p_s = .04, \eta_p^2_s \geq .02$, were positively associated with sharing, $r_s(259) = .14, p_s = .04$, while youths' ratings of whether they liked the candy, $F(1, 238) = 6.55, p = .01, \eta_p^2 = .03$, were negatively associated with sharing, $r(251) = -.19, p = .003$.

Effects of emotion labeling on empathic concern.—Our second goal was to evaluate whether emotion labeling led to increases in maltreated and community youths' empathic concern toward a peer. An analysis of covariance (ANCOVA) was conducted with youths' empathic concern ratings as the dependent measure. Emotion label condition (0 = control, 1 = sad emotion condition), maltreatment status (0 = community, 1 = maltreated), and their interaction were entered as predictors. Age and Digit Span performance were covaried.

Emotion labeling emerged as a robust predictor of youths' subsequent empathic concern, $F(1, 243) = 61.89, p = .002, \eta_p^2 = .20$. Youth who received the sad emotion label reported significantly greater concern for the peer, $M = 14.00, SE = .48, 95\% \text{ CI } [13.05, 14.94]$, than did youth who did not receive such labeling, $M = 8.57, SE = .50, 95\% \text{ CI } [7.59, 9.55]$ (score range = 0–20; see Table 2). Contrary to predictions, however, maltreated youth did not significantly differ from community youth in their ratings of empathic concern, directly or in conjunction with emotion labeling condition, $F_s(1, 243) = .65, p_s = .42, \eta_p^2_s \leq .003$. Thus, for both groups of youth, emotion labeling was similarly effective in increasing empathic concern. Age was also associated with youths' ratings of empathic concern, $F(1, 243) = 9.50, p = .002, \eta_p^2 = .04$, with younger youth tending to report greater concern than older youth, $r(249) = -.20, p = .001$.

Effects of emotion labeling on prosocial behavior via empathic concern.—Although no direct effects of emotion labeling on youths' generosity were evident according to the ANCOVA, it was still possible that emotion labeling had *indirect* effects on youths'

generosity via their empathic concern. To test this possibility, and evaluate whether such effects differed between maltreated and community youth, a moderated mediation model was conducted using ordinary least squares path analysis with Hayes Process macro for SPSS (Hayes, 2013) (see Fig. 1). Emotion labeling condition was entered as the predictor (X), empathic concern as the mediator (M), and youths' sharing behavior (i.e., number of candies left for the peer) as the dependent measure (Y) (Model 8). Maltreatment was entered as a moderator of the effects of emotion labeling on empathic concern and prosociality (W). Youth age, Digit Span performance, and enjoyment of candy were covaried.

Results partially confirmed hypotheses. As expected, relative to youth in the control condition, youth in the sad emotion label condition reported greater empathic concern for a peer, $a = 6.05$, $SE = 1.08$, $t(238) = 5.59$, $p < .001$, 95% CI [3.92, 8.18], and in turn, youth who reported greater empathic concern showed greater generosity toward that peer, $b = .05$, $SE = .02$, $t(237) = 2.21$, $p = .03$, 95% CI [0.01, 0.09] (see Table 3 and Fig. 1). In contrast to expectations, however, no evidence of moderated mediation emerged. That is, mediation was similar for both samples, as suggested by the bootstrap confidence intervals for the indirect effects (based on 5,000 bootstrap resamples) in both samples (maltreated youth: $ab_1 = .24$, $SE = .13$, 95% CI [.01, .51]; community youth: $ab_2 = .30$, $SE = .16$, 95% CI [.01, .61]), and the non-significant contrast between samples, coefficient = $-.06$, $SE = .08$, 95% CI [-.24, .08]

Exploratory Analyses

A final set of analyses explored the effects of age on the associations among emotion labeling, empathic concern, and generosity. Again, a moderated mediation model was conducted, with emotion labeling as the predictor (X), empathic concern as the mediator (M), and youths' sharing behavior as the dependent measure (Y) (Model 8; Hayes, 2013). Age (continuous, mean centered) was entered as a moderator of the effects of emotion feedback on empathic concern and prosociality (W). Maltreatment, Digit Span performance, and youths' enjoyment of candy were covaried. Across age, emotion labeling led to comparable increases in generosity via increases in empathic concern (see Table 4 and Fig. 2), as evidenced by significant indirect effects at each level of age (mean and ± 1 SD; range of $abs = .23 - .29$; no confidence intervals contain zero), and a non-significant index of moderated mediation, coefficient = $-.01$, $SE = .01$, 95% CI [-.04, .02].

Discussion

Central to our ability to empathize with and act altruistically toward others is the ability to adequately recognize and understand their emotions. Being aware of others' emotions attunes us to when others are in need and motivates us to act in ways that promote others' welfare. Despite the importance of this awareness for empathic and prosocial responding, very little empirical attention has focused on whether improving youths' awareness of others' emotions enhances such responding, especially among youth at considerable risk for deficits in these response tendencies. We tested these very issues in the present investigation in a sample of maltreated youth, whose deficits in emotional awareness and prosociality have been widely documented (Alink et al., 2012; Koenig, 2004; Pollak et al., 2000; Pollak,

2008), and we compared their response tendencies to those of youth recruited from the community. Several key findings emerged, the most exciting and novel of which was, that by increasing the salience of others' sadness, youths' empathic concern toward others could be enhanced. The latter then affected their subsequent prosocial behavior. Next, we discuss the implications of these findings, along with those of other results that emerged.

First, our findings suggest that empathic and prosocial behavior can be modified in youth, including in youth who, as a result of maltreatment, show reductions in prosocial tendencies. Among both maltreated and community youth, those who received feedback designed to cue them to a peer's sadness (i.e., an emotion label) reported significantly greater empathic concern toward that peer than those who did not receive such feedback, and this concern was in turn associated with the youths' greater generosity toward that peer, reflected in greater sharing behavior. These patterns provide further support for the notion that the awareness of sadness in others plays a key role in eliciting empathic and prosocial responding, specifically generosity, in youth. When combined with emerging evidence showing that other aspects of emotional awareness (e.g., hostile attribution bias) and related behaviors (e.g., anger, aggression) are amenable to modification, including in maltreated youth, findings suggest that enhancing broader emotion understanding may be a worthwhile target for both reducing negative behaviors and potentially promoting positive ones (Adams et al., 2013; Dickerson et al., 2020; Hiemstra et al., 2018; Penton-Voak et al., 2013).

Second, our findings, at least preliminarily, suggest that feedback might not need to be elaborate or dramatic to elicit positive changes in youths' behavior. Simply labeling others' sad emotions and briefly mentioning the circumstances surrounding that sadness were sufficient to evoke greater reported empathic concern and in turn generosity in maltreated and community youth. Such trends are promising, particularly in the search for simple, cost-effective, and "wise" solutions to improve positive functioning in high-risk and underserved populations (see Walton, 2014). Before interventions can be created, however, it will be important to test variations in feedback, training activities, and methods of service delivery to identify which techniques are maximally effective. For instance, subsequent work can improve on the ecological validity of the task by labeling emotions in real-life social encounters. Such is especially important given that emotion-related deficits are most pronounced and in need of intervention during everyday social interactions. Work should also test the effects of emotion labeling on prosociality during situations involving interactions with confederates or exposure to expressions of emotion (e.g., facial expressions) or other contextual social cues (e.g., prosody, facial movement, and gestures). Finally, longitudinal work that evaluates the effects of emotion labeling over time and the frequency of label delivery necessary to enact longer term change in youths' behavior is required.

As an important caveat to our findings, we did not find evidence that emotion labeling affected youths' generosity toward a peer independent of its effects on the youth's reported empathic concern. When considered in the context of literature on empathy-related responding, this finding may underscore the differential roles played by cognitive versus affective dimensions of empathy in eliciting prosocial behavior. Cognitive empathy involves the awareness and understanding of others' emotions and perspectives, whereas affective

empathy involves the ability to share the emotions of others (Eisenberg & Strayer, 1987). While debates exist about the relative importance of “feeling” versus “understanding” emotions in facilitating prosocial behavior, emerging evidence suggests that affective empathy (i.e., “feeling”) may be more strongly related to prosociality. For instance, both longitudinal and cross-sectional studies have found that empathic concern, a core component of affective empathy, is directly associated with prosocial behavior, whereas perspective taking (i.e., cognitive empathy) is only indirectly related to prosociality via its effects on empathic concern (Eisenberg et al., 2001; Van der Graaff et al., 2018). Our manipulation targeted cognitive aspects of empathy in promoting youths’ emotional awareness via explicitly labeling others’ emotions. Similar to findings of recent work, we found that the effects of our manipulation on prosociality operated indirectly via empathic concern. Had we manipulated affective empathy instead, direct effects on prosociality may have emerged. This possibility deserves future empirical attention, especially in light of evidence of global (i.e., cognitive and affective) empathic deficits in maltreated youth (e.g., Burack et al., 2006; Klimes-Dougan & Kistner, 1990; Yu et al., 2020).

Another noteworthy trend, also contrary to predictions, was that maltreated youth did not uniquely benefit from emotion-related feedback or benefit more than the community sample did. Both groups of youth showed similar increases in generosity via increases in empathic concern following emotional labeling. On the one hand, this might suggest that the value of enhancing youths’ emotional awareness, at least via our simple manipulation, is universally beneficial in promoting positive social functioning. This pattern is also generally consistent with our finding that the effects of emotional labeling were comparable across a wide age range. On the other hand, heterogeneity within groups, particularly the maltreated youth, may have obscured potential group differences in effects. While basic indicators of maltreatment and placement history (i.e., maltreatment type, number of placement changes) were unrelated to empathic and prosocial functioning in the maltreated sample, the youth nonetheless varied in their experiences and backgrounds, including potentially in ways beyond those captured by our data. Furthermore, not all maltreated youths may have deficits in empathic and prosocial functioning commonly observed in this population (Alink et al., 2012; Klimes-Dougan & Kistner, 1990; Koenig et al., 2004; Yu et al., 2020). Individual differences in empathic and prosocial behavior are well-established (Eisenberg, 2005), and theory regarding the possible transformational effects of adversity on altruism (i.e., altruism born of suffering) suggests that there is the potential for enhanced empathy and prosociality in at least some members of this population (Lim & DeSteno, 2016; Staub & Vollhardt, 2008). To our knowledge, this latter possibility has not been tested empirically in maltreated youth as they are actively undergoing experiences of trauma and adversity (as opposed to later in adulthood, when individuals have overcome and potentially made meaning of these experiences; Staub & Vollhardt, 2008). Future research will need to consider more systematically the effects of heterogeneity in both experiences and in the effects of maltreatment on empathic functioning.

Two final findings highlight the need for continued research in this important area of inquiry. First, although we found expected differences between maltreated and community youth in behavioral prosociality (i.e., with maltreated youth leaving fewer candies for a peer), the two groups did not differ in self-reported levels of empathic concern or prosociality. However,

maltreated youth often report lower cognitive and affective empathy and prosociality than non-maltreated youth (e.g., Klimes-Dougan & Kistner, 1990; Koenig & Cicchetti, 2004; Yu et al., 2020). Methodological variations may account for divergent trends across studies. In particular, we evaluated empathic concern in response to a specific target using a one-item pictorial scale employed in prior developmental work with adversity-exposed samples (Li et al., 2013; Quas et al., 2017). In contrast, past work comparing maltreated and nonmaltreated youths has often assessed youths' general empathic tendencies via standardized questionnaires, via indirect indicators coded from the content of youths' narratives in storytelling tasks or from their facial expressions or language (Barahal et al., 1981, Beeghly and Cicchetti, 1994, Burack et al., 2006, Klimes-Dougan and Kistner, 1990, Straker and Jacobson, 1981), or according to behavioral observations or assessments from peers or others known to the youths (Alink et al., 2012, Koenig et al., 2004, Shields et al., 1994). Our brief self-report measure may not have adequately captured nuances in the experience of empathic concern that vary between groups. Multiple indices, including behavioral markers of empathic concern, may be needed to detect group differences. At the same time, both groups of youth in the current study could be considered at risk, which may have muted some overall differences. For instance, although the maltreated youth reported greater depressive, dissociative, and potentially post-traumatic stress symptoms than did the comparison youth, the groups did not significantly differ in anger, anxiety, and overall psychopathology, with the latter indicators being particularly important in motivating empathic and prosocial behavior (Eisenberg & Eggum, 2009; Gonzales-Lienclas et al., 2013; Roberts et al., 2014). Future research using multi-method approaches of assessing these tendencies may reveal a more complex picture of maltreated and other at-risk youths' capacity for empathic and prosocial responding.

Second, although emotion labeling increased generosity via empathic concern, consistent with prior work supporting an empathy-altruism link (Batson, 2011; Li et al., 2013), the overall size of this effect was small. Certainly, many motivations affect whether and how empathy is translated into prosocial behavior (e.g., egoistic concerns, moral values, personal distress, situational elements; Davis, 2015; Zaki, 2014). Given that both the maltreated and community youth were generally low in resources, it is possible that a resource sharing task may not have been sensitive enough to capture variations in their capacity for prosociality (all of the youth, for instance, may have been less inclined to share valued resources relative to youth high in resources). Prosocial measures that target behaviors less relevant to basic needs, like helping or comforting, might reveal larger effects of empathic concern on prosociality in at-risk youth. Because developmental (and non-developmental) research has predominantly relied on resource sharing tasks as a behavioral index of prosociality, it will be important for other, potentially more appropriate or "real-world" measures of empathy and altruism to be developed and tested. In doing so, much-needed insight into how empathic processes operate under different conditions and in different populations would be gained.

The current study provides novel insight into a potentially simple and effective method of varying empathic concern and prosocial tendencies in high-risk youth. However, limitations must be acknowledged. For one, given that differences in emotional awareness between maltreated or community youth have been consistently documented in prior literature (e.g.,

see Pollak et al., 2000; Pollak & Sinha, 2002; Wismer Fries & Pollak, 2004), we did not include a pretest designed to compare emotional awareness between groups. Nonetheless, the inclusion of both pretests and posttests of emotional awareness will be a necessary addition in future work, particularly in efforts to identify mechanisms of change underlying experimental or intervention effects. In addition, our emotion labeling manipulation involved both emotional *and* contextual cues to promote awareness of others' emotions. Of interest will be research that disentangles whether one or both cues are needed to alter youths' behavior. While awareness of others' emotional experiences is necessary to inspire empathy and prosociality, there is some evidence, at least in normative developmental populations, that the context surrounding individuals—even in the absence of overt emotional cues—may lead to similar behavior via perspective-taking (Vaish et al., 2009). Whether such trends emerge among maltreated youth, who show a range of impairments in social perspective-taking (Burack et al., 2006), should be tested.

Finally, is the issue of whether our manipulation is improving emotion understanding or emotion recognition, including in ways that lead to improvements in youths' real-world social interactions. That is, by simply labeling others' emotions and emotional experiences, we may be enhancing their awareness of others' emotions in a given context, but not changing their underlying recognition or understanding of emotions that would in theory confer broader benefits for social functioning. Studies should test whether our experimental approach generalizes to youths' actual understanding or recognition of emotions or whether intensive feedback tasks are needed to enhance these tendencies in ways that lead to improvements in functioning.

Conclusions

The present study's findings provide exciting new insight into potential methods of enhancing maltreated and community youths' awareness of others' sadness to improve their ability to respond empathically and prosocially toward others. Our work may thus have implications for prevention and intervention efforts designed to facilitate positive developmental outcomes in maltreated and other high-risk populations. Talking with youth about others' emotions and experiences may be a simple and effective means of building social awareness and connectedness in vulnerable youth. By cultivating these skills, core to healthy relationships and functioning, it may be possible to direct youths' trajectories toward better emotional and social well-being.

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Highlights

- Emotional awareness can be enhanced in maltreated and community youth via simple emotion feedback.
- Enhanced awareness of others' sadness leads to increases in empathic concern.
- Increases in empathic concern in turn lead to increases in generosity.

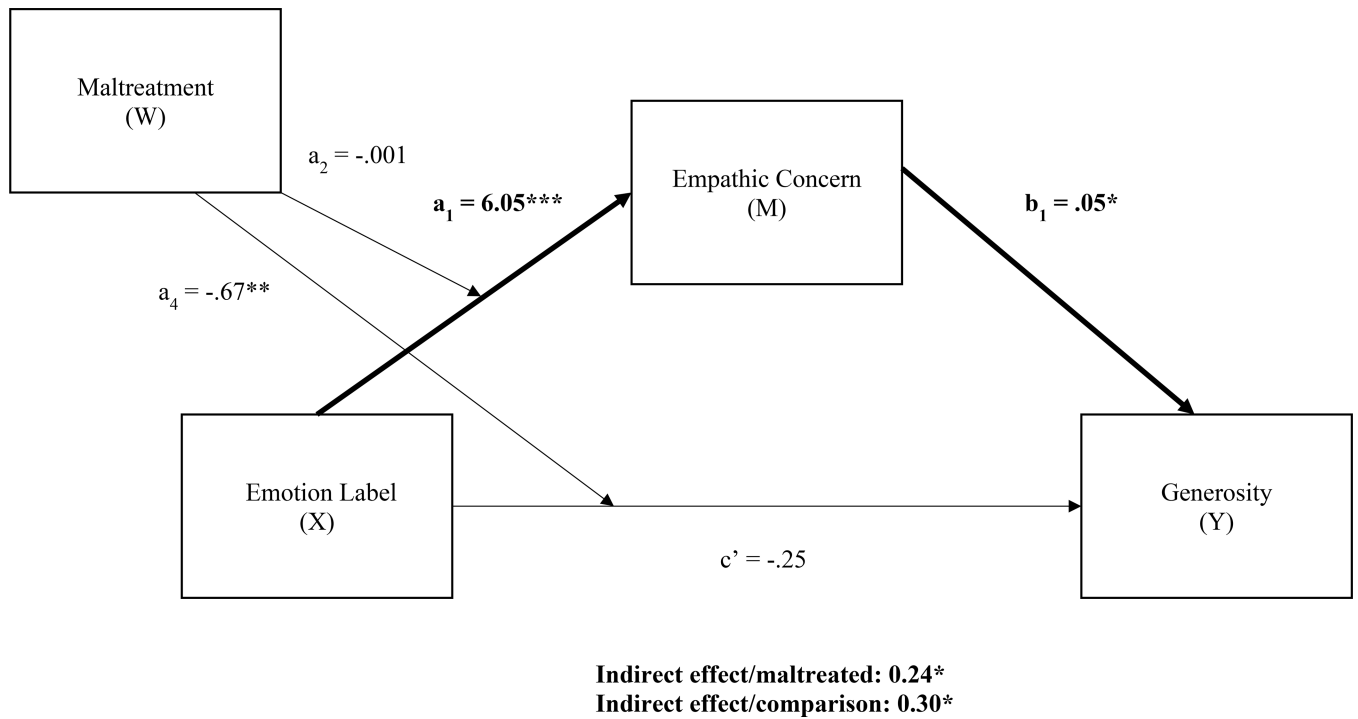


Figure 1. Moderated mediation model of the effects of emotion labeling on generosity via empathic concern (maltreatment as a moderator). Bolded paths and coefficients indicate significant effects.

* $p < .05$, ** $p < .01$, *** $p < .001$

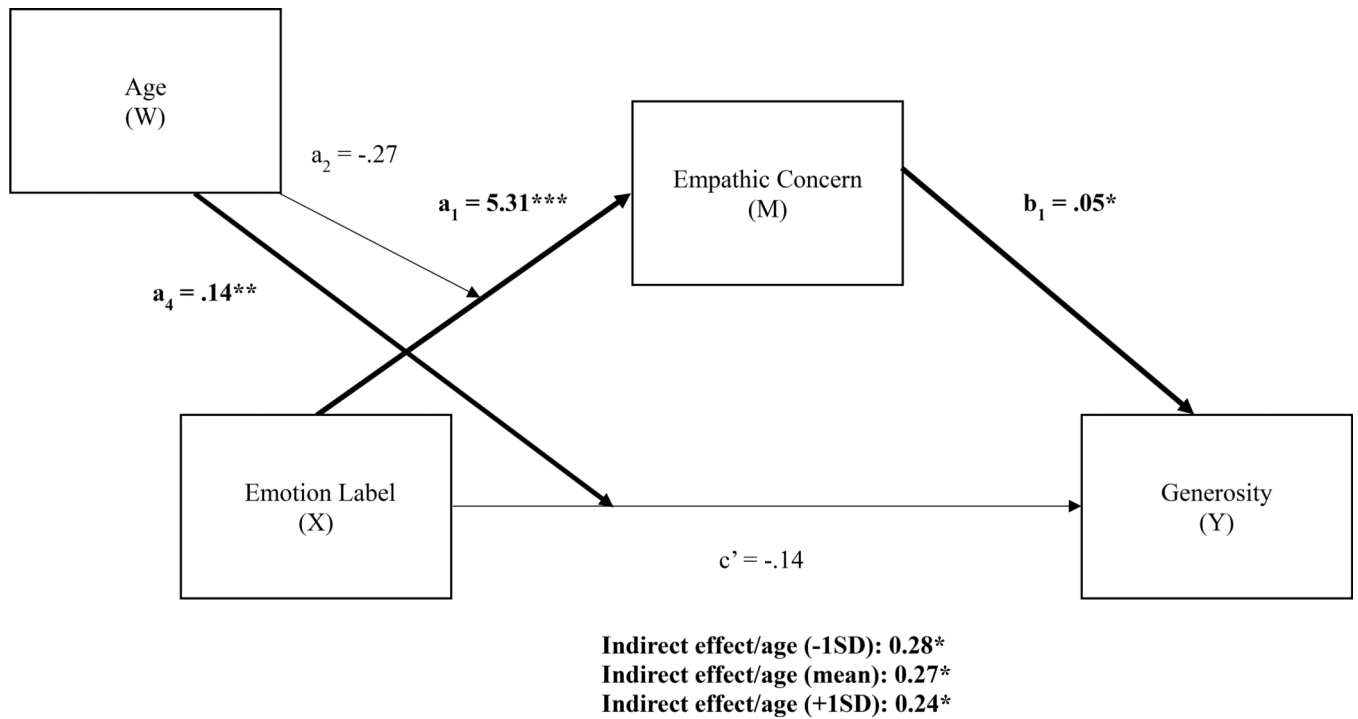


Figure 2. Moderated mediation model of the effects of emotion labeling on generosity via empathic concern (age as a moderator). Bolded paths and coefficients indicate significant effects.
 * $p < .05$, ** $p < .01$, *** $p < .001$

Table 1

Descriptive Statistics and Bivariate Correlations Between Main Study Variables (N = 251)

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Age	11.92	3.27	-								
2. Gender (% female)	49.00		.19**	-							
3. Maltreatment (% maltreated)	58.00		.06	.02	-						
4. Psychological Functioning	0.90	0.46	.03	-.08	.10	-					
5. Self-Reported Prosociality	1.56	0.37	-.01	-.11	.01	-.05	-				
6. Digit Span Performance	6.63	3.57	-.19**	-.02	-.59***	-.04	-.003	-			
7. Emotion Label (% sad condition)	52.00		-.03	-.005	.005	-.02	.05	.01	-		
8. Empathic Concern	11.29	6.07	-.20	-.12	-.03	-.05	.09	.03	.43***	-	
9. Number of candies shared	6.24	1.98	.13*	-.02	-.25***	-.05	.09	.24***	.04	.09	-

Note. Point biserial correlations are included, where appropriate. The digit span scores were age standardized.

*
p < .05

**
p < .01

p < .001

Table 2

Analysis of Covariance Predicting Youths' Empathic and Prosocial Responses

Predictors	<i>Empathic Concern</i>		<i>Generosity</i>	
	F	η^2_p	F	η^2_p
Age	9.50**	.04	6.74*	0.03
Digit Span Performance	.27	.001	4.22*	0.02
Enjoyment of Candy	-	-	6.55*	.03
Maltreatment	.44	.002	4.08*	.02
Emotion Label Condition	61.89***	.20	0.20	.001
Maltreatment \times Emotion Label	.65	.002	0.06	.001

Note. Df's range from (1, 238–243). For the model concerning empathic concern, $R^2 = .23$ (Adj. $R^2 = .22$); for the model concerning generosity, $R^2 = .12$ (Adj. $R^2 = .10$).

* $p < .05$,

** $p < .01$

*** $p < .001$

Table 3
Results of Moderated Mediation Analyses Estimating the Effects of Emotion Labeling on Generosity Via Empathic Concern

Predictors	Empathic Concern (M)			Generosity (Y)		
	Coeff.	95% CI		Coeff.	95% CI	
Emotion Label (X)	a_1	6.05*** (1.08)	[3.91, 8.17]	c'	-.25 (0.39)	[-1.03, 0.54]
Empathic Concern (M)		-	-	b_1	.05* (0.02)	[0.01, 0.09]
Maltreatment (W)	a_2	-.001 (1.08)	[-2.14, 2.14]	a_4	-.67 (0.37)	[-1.41, 0.07]
X * W	a_3	-1.25 (1.42)	[-4.04, 1.54]	a_5	.18 (0.49)	[-0.78, 1.15]
<i>Covariates</i>						
Age		-.34** (0.11)	[-0.54, -0.11]		.12** (0.04)	[0.04, 0.19]
Digit Span		-.06 (0.12)	[-0.30, 0.18]		.09* (0.04)	[0.01, 0.17]
Enjoyment of Candy		-.51 (1.30)	[-3.08, 2.05]		-1.14* (0.45)	[-2.02, -0.25]
Constant	i_m	13.36*** (2.39)	[8.64, 18.07]	i_y	5.22*** (0.88)	[3.48, 6.96]
$F(7, 237) = 12.01, p < .001, R^2 = 0.23$						
<i>Conditional Indirect Effects of X on Y</i>						
Maltreated Youth	ab_1	0.24* (0.13)	[0.01, 0.51]			
Comparison Youth	ab_2	0.30* (0.15)	[0.01, 0.61]			
Index of moderated mediation		-0.06 (0.08)	[-0.23, 0.08]			

Note. Coefficients are unstandardized. Standard errors are in parentheses. The indirect effects were calculated using 95% bootstrap confidence intervals. $N = 245$.

* $p < .05$

** $p < .01$

*** $p < .001$

Table 4
 Results of Moderated Mediation Analyses Estimating the Effects of Emotion Labeling on Generosity Via Empathic Concern

Predictors	Empathic Concern (M)			Generosity (Y)		
	Coeff.	95% CI		Coeff.	95% CI	
Emotion Label (X)	a_1	5.31 *** (0.69)	[3.95, 6.68]	c'	-0.14 (0.26)	[-0.66, 0.39]
Empathic Concern (M)		-	-	b_1	0.05* (0.02)	[0.004, 0.09]
Age (W)	a_2	-0.27 (0.15)	[-0.57, 0.03]	a_4	0.14** (0.05)	[0.04, 0.25]
X * W	a_3	-0.14 (0.21)	[-0.56, 0.29]	a_5	-0.06 (0.07)	[-0.20, 0.09]
<i>Covariates</i>						
Maltreatment		-0.57 (0.87)	[-2.27, 1.14]		-0.58 (0.29)	[-1.17, 0.01]
Digit Span		-0.05 (0.12)	[-0.30, 0.18]		0.09* (0.04)	[0.002, 0.17]
Enjoyment of Candy		-0.57 (1.30)	[-3.13, 2.00]		-1.14* (0.45)	[-2.02, -0.25]
Constant	i_m	9.77*** (1.81)	[6.19, 13.34]	i_y	6.58*** (0.66)	[5.28, 7.90]
		$F(6, 238) = 11.92, p < .001, R^2 = 0.23$			$F(7, 237) = 5.66, p < .001, R^2 = 0.14$	
<i>Conditional Indirect Effects of X on Y</i>						
Age (-1 SD)	ab_1	0.28* (0.15)	[0.006, 0.61]			
Age (mean)	ab_2	0.27* (0.14)	[0.006, 0.52]			
Age (+1 SD)	ab_3	0.24* (0.13)	[0.004, 0.51]			
Index of moderated mediation		-0.06 (0.08)	[-0.23, 0.08]			

Note. Coefficients are unstandardized. Standard errors are in parentheses. The indirect effects were calculated using 95% bootstrap confidence intervals. $N = 245$.

* $p < .05$

** $p < .01$

*** $p < .001$