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**Feeling Bad About Feeling Mad: Anger Predicts Higher Non-Aggressive Disruptive Behavior but not Aggression in Children With Higher Ethical Guilt**

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**Abstract**

Anger often goes hand in hand with aggression in childhood, but recent findings suggest that ethical guilt (i.e., feeling bad over violating ethical principles, such as not causing harm or caring

for others) can disrupt the anger–aggression link. However, anger is difficult to diffuse and may persist even in high-guilt children. For the present study, we explored whether high-anger, high-guilt children would display their anger as non-aggressive disruptive behavior (i.e., behaviors like screaming and disobedience that do not violate ethical principles) rather than as aggression ( $N = 150$  eight-year-olds; 50% female). Anger was unassociated with aggression but positively associated with non-aggressive disruptive behavior in high-guilt children. Results suggest that angry children with a strong sense of ethical guilt engage in less anger-induced, intentional acts of aggression than angry children who report less ethical guilt; such children may instead dispel anger as non-aggressive disruptive behaviours and thus avoid acting against their ethical compasses.

*Keywords:* Aggression, disruptive behavior, anger, guilt, middle childhood

**Highlights**

- Ethical guilt disrupts the aggravating link between anger and aggression
- When guilt is high, anger is unassociated with aggression
- When guilt is high, higher vs. lower anger results in *more* non-aggressive disruption
- Guilt may dispel anger via behaviors that do not violate ethical principles against harm
- May need to combine ethical guilt induction with other strategies if intervention aim is to minimize all disruptive behaviors

### **Feeling Bad About Feeling Mad: Anger Predicts Higher Non-Aggressive Disruptive Behavior but not Aggression in Children With Higher Ethical Guilt**

Children who experience intense and/or frequent anger tend to externalize it as aggressive harm towards others (Berkowitz, 1989). This anger–aggression link has been well established across development (Lochman et al., 2010) and research has demonstrated that aggressive children are more likely to struggle with poor school performance, mental health challenges, and rejection from peers (Eisner & Malti, 2015; Moilanen et al., 2010). The mechanisms that disrupt children’s anger-related aggression are less clear. In two recent studies, researchers found less anger-related aggression in children with a higher vs. lower tendency to express guilt after harming others (Colasante et al., 2015, 2016). Feelings of guilt may highlight the negative consequences of anger-induced aggression (e.g., unfairness, harm; Malti, 2016), thus regulating anger before it manifests as aggression (Colasante et al., 2015, 2016). However, it is also possible that guilt does not regulate anger and instead redirects children’s anger to less guilt-inducing behavioral disruptions that dispel anger without causing harm to others. Given that many aggressive youth struggle with regulating anger (for a review, see Blake & Hamrin, 2007), the latter alternative may be a helpful addition to aggression interventions as it may redirect youth’s anger to less harmful outlets without necessarily requiring them to regulate the anger itself. For the present study, we aimed to replicate previous findings showing that guilt buffers the anger–aggression link and to test the novel hypothesis that high-anger, high-guilt children would externalize their anger as non-aggressive disruptive behaviors rather than as aggression relative to children with high anger and lower levels of guilt.

#### **The Anger–Aggression Link in Childhood**

Anger is an intense and often externally directed negative emotional reaction to perceived or actual threat against oneself or others, or to frustration over having one's goals blocked (Averill, 1982; Lazarus, 1991). It serves the adaptive function of readying children for threat; however, in most children's daily lives, expressing and acting on anger can have maladaptive repercussions. A common behavioral outlet for children's anger is aggression—acts that intentionally cause physical or psychological harm to others (Eisner & Malti, 2015). With the exception of moral anger (see van Doorn et al., 2014), scholars often consider anger to be fuel for aggressive and disruptive behavior (Berkowitz, 1989), and it has been repeatedly linked to children's actual aggression across development with negative personal and interpersonal implications (Lochman et al., 2010; Moilanen et al., 2010). For example, an observational study found that, compared to children who were not prone to anger, children with angry tendencies initiated more aggression in the classroom and were less accepted by their peers (Arsenio et al., 2000). Dynamic associations between children's and adolescents' anger and aggression have also been established in diary studies, as days with intense bouts of anger were more likely to feature aggression in comparison to days when less intense anger was experienced (Colasante et al., 2016; Moore et al., 2019; Rothenberg et al., 2019).

### **Disrupting the Anger–Aggression Link in Childhood**

The topic of combatting aggression in childhood has been well studied (Lee & DiGiuseppe, 2018) and a number of interventions exist for this purpose, some of which include anger management components (e.g., the Coping Power Program and earlier Anger Coping Program; Larson & Lochman, 2002; Lochman & Wells, 2004). However, relatively little is known about specifically disrupting children's *anger-related* aggression. Compared to other common emotions, anger is particularly intense and difficult to regulate (e.g., Rivers et al., 2007;

Rydell et al., 2003), especially in childhood when regulatory skills are still developing (Thompson & Goodman, 2010). Thus, rather than focusing solely on managing anger, it may be useful to consider competing emotional experiences, such as guilt, that shift children away from anger-inducing stimuli.

Some have proposed guilt—an emotional experience characterized by regret over wrongdoing and the acceptance of responsibility for the consequences of one's actions—as one such moderator of the anger–aggression link (Colasante et al., 2015, 2016; Colasante & Malti, 2020; Kochanska et al., 2002; Malti, 2016). Specifically, *ethical* guilt after harming others may be particularly relevant for discouraging children from behaving aggressively to dispel their anger (Malti & Krettenauer, 2013). Whereas non-ethical guilt stems from concerns over norm violations and punishment, ethical guilt arises over concerns about violating others' welfare (Malti et al., 2018). Anger-related aggression always violates others' welfare but does not always result in punishment, suggesting that ethical guilt may be a more consistent deterrent of anger-related aggression relative to non-ethical guilt (Colasante et al., 2020). For this reason, the current study focused on ethical guilt as a competing emotional buffer against anger-related aggression.

Two previous studies have demonstrated the buffering effects of ethical guilt on anger-related aggression (Colasante et al., 2015, 2016). An initial cross-sectional study ( $N = 242$  four-, 8-, and 12-year-olds) found that children who were higher in dispositional anger and expressed more ethical guilt after hypothetical harm were less aggressive relative to angry children who expressed less guilt. This effect held above and beyond the buffering effects of inhibitory control (Colasante et al., 2015). A subsequent daily diary study assessed 80 four- and 8-year-olds' anger and aggression for 10 consecutive days ( $N = 470$  records) and a baseline measure of ethical guilt

after hypothetical harm (Colasante et al., 2016). Children's dispositional anger was assessed by averaging their anger ratings across all 10 days and state-level daily deviations in anger were calculated by subtracting each child's average anger score from their respective daily anger scores. Replicating the Colasante et al. (2015) findings, Colasante et al. (2016) demonstrated that children with higher levels of dispositional anger were less likely to be rated higher in aggression if they expressed relatively high levels of ethical guilt compared to children with higher levels of dispositional anger who expressed lower levels of guilt. Extending the Colasante et al. (2015) findings to the state level, Colasante et al. (2016) found that within-child spikes in daily anger were less likely to coincide with aggression for children higher in ethical guilt. Based on these collective findings, the researchers suggested that ethical guilt buffers anger-related aggression by highlighting the ethical implications and potential negative consequences of such behavior, shifting children away from anger before it manifests as aggression (Colasante et al., 2015, 2016).

### **Alternative Behavioral Outlets for Anger in Children With High Guilt**

Although ethical guilt may reduce the likelihood of anger translating into aggression, Colasante et al. (2015, 2016) did not assess secondary behavioral outcomes and thus could not rule out the possibility of guilt redirecting anger into a different type of disruptive behavior. Given that anger is particularly difficult for children to regulate (e.g., Rivers et al., 2007; Rydell et al., 2003), anger may persist in guilty children because ethical guilt is not a direct emotion regulation strategy. If this is the case, children high in both anger and ethical guilt may externalize their anger in other behaviorally disruptive ways that do not violate their ethical principles against harm. For instance, non-aggressive disruptive behaviors share some similarities with aggression (e.g., both behaviors disrupt others); however, a key distinction is



that non-aggressive disruptive behaviors do not involve the intent to harm others. Indeed, typical non-aggressive disruptive behaviors, such as screaming and disobedience, contravene social norms, rules, or authority figures without harming others or they harm others to a much lesser extent than do intentional acts of physical and verbal aggression (Burt, 2012; Eisner & Malti, 2015; Harden et al., 2015; Mann et al., 2017). Since non-aggressive disruptive behaviors are less likely to violate ethical principles, children with high ethical guilt may consider them a more attractive way to externalize anger in comparison to aggression.

Although aggressive and non-aggressive disruptive behaviors tend to be moderately correlated (e.g., Bartels et al., 2003; Mann et al., 2017), a significant body of research suggests that they should be treated as distinct. For instance, children's aggressive and non-aggressive disruptive behaviors were differentially predicted by parenting practices (Stormshak et al., 2000) and physiology (Beauchaine et al., 2008), and had different mental health and behavioral outcomes (e.g., Althoff et al., 2014; Burt et al., 2011). Even in clinical samples characterized by highly comorbid aggressive and non-aggressive disruptive behaviors, these two types of behaviors had significant etiological differences (Frick et al., 1993; Tackett et al., 2005). As such, understanding the differential behavioral outlets of anger may contribute to developmental and clinical-developmental literature by explaining significant heterogeneity in aggressive and non-aggressive disruptive behaviors.

### **The Present Study**

The present study had two goals: First, we aimed to replicate previous studies (i.e., Colasante et al., 2015, 2016) indicating a buffering effect of ethical guilt on the anger–aggression link. Second, we aimed to extend these past findings by testing whether anger is externalized into non-aggressive rather than aggressive disruptive behavior under conditions of high ethical guilt,

thus clarifying the typical end result of children's anger when they also have a strong sense of ethical guilt. We hypothesized that higher anger would be associated with lower aggression and higher non-aggressive disruptive behaviors for children with higher versus lower ethical guilt. We tested these hypotheses with a sample of 8-year-old children. We chose this age because, although children begin to express guilt over transgressions in early childhood (around age 4; Kochanska et al., 2008), they tend to over-value the hedonistic gains of transgressing (known as the "happy victimizer phenomenon"; Arsenio et al., 2006). It is not until middle childhood that children have experienced significant enough development in related capacities (e.g., perspective-taking) for them to reliably express ethical guilt (i.e., by about 7 or 8 years of age; Arsenio, 2014; Malti, 2016; Nunner-Winkler & Sodian, 1988). Although not central to our goals/hypotheses, we also controlled for main effects of gender and assessed gender differences in relations of variables given previous developmental studies documenting gender differences in aggression (i.e., boys being more aggressive than girls; Nivette et al., 2014), anger (i.e., mixed findings; Potegal & Archer 2004), guilt (i.e., girls being higher in guilt than boys; Malti & Ongley, 2014), and relations thereof (i.e., mixed depending on the type of aggression measured; Lansford et al., 2012).

## Method

### Participants

One-hundred-and-fifty 8-year-olds ( $M_{\text{age}} = 8.53$ ,  $SD = 0.30$ ; 50% female) and their primary caregivers were recruited from community centres, events, and summer camps in a large Canadian city. The sole exclusion criterion was a diagnosis of autism spectrum disorder, but no prospective participants were excluded based on this criterion. Caregivers reported their highest levels of education as bachelor's (44.0%), master's (23.3%), college (18.7%), high school

(5.3%), doctoral (2.7%), apprenticeship/trade (2.0%) level, and no diploma (0.7%; 3.3% missing or chose not to report). Caregivers' ethnic backgrounds were reported as Western European (20.0%), South/Southeast Asian (17.3%), multiethnic (15.3%), East Asian (10.0%), Central/South American or Caribbean (9.3%), African (5.3%), Eastern European (4.0%), Middle Eastern (0.7%), and other (3.3%; 14.6% missing or chose not to report). These distributions were largely representative of the diverse region from which the sample was drawn (Statistics Canada, 2018).

### **Procedure**

The Office of Research Ethics at the researchers' institution approved the study prior to data collection. We obtained verbal assent from children and written consent from caregivers. Children and caregivers attended the laboratory for a 45- to 75-minute session conducted by trained research assistants. Child assessments took place in a designated room while caregivers completed a questionnaire in a waiting room. At the study's end, caregivers were debriefed while children were given an age-appropriate book for their participation.

### **Measures**

#### ***Aggression and Non-Aggressive Disruptive Behavior***

Caregivers completed the Child Behavior Checklist (CBCL 6–18; Achenbach & Rescorla, 2000) Aggressive Behavior Syndrome scale, which has been extensively validated and shown to be reliable (see Hudziak et al., 2004). All 18 items were rated on a 7-point scale from 0 (*never*) to 6 (*almost always*). As depicted in Table 1, prior to any data analyses, we subdivided items into further aggression and non-aggressive disruptive behavior scales depending on their alignment with the conceptualizations of these constructs put forth in the introduction. Generating abbreviated scales from the broader subscales of the CBCL is a common approach to

ensure that measurement constructs accurately reflect the outcome behaviors of interest (e.g., Colasante et al., 2016; Hyde et al., 2013; Neumann et al., 2011; Willoughby et al., 2011). The items were averaged to create the respective scales. Both scales were reliable (six aggression items,  $\alpha = .76$ ; seven non-aggressive disruptive behavior items,  $\alpha = .83$ ). Five other items were not included because they did not align with the present study's definitions of aggression or non-aggressive disruptive behavior, or because they were conflated with anger. To confirm that the items we chose for each construct did in fact load onto separate factors in the manner we expected, we ran a principal components analysis (PCA) of our original items with promax rotation, suppressing loadings less than .4. This resulted in a two-factor solution. All of the items loaded as expected with one exception: "disobedience at school" loaded with the aggression items (.49) rather than the non-aggressive disruptive items. It is possible that disobedience at school that became known to parents was more serious and thus involved aggression. We excluded this item from further analyses. No items loaded above threshold on both components and above-threshold loadings ranged from .51–.91.

### *Anger*

Caregivers completed the 3-item Dysregulated Expression subscale of the Children's Anger Management Scale (Zeman et al., 2002) on a 7-point scale from 0 (*never*) to 6 (*almost always*), of which a single item<sup>1</sup> (i.e., "Does things like slam doors when he/she is mad") was used because it did not reference harming others and was thus not conflated with the present study's aggression construct. Caregivers also completed 6 items adapted by Eisenberg et al. (1993) from the Affect Intensity Measure (Larsen & Diener, 1987), of which two reverse-coded

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<sup>1</sup> Given this item's potential conflation with disruptive behavior, we ran a PCA including all anger and disruptive behavior items. This item loaded alongside the other two anger items (.42) to form a three-item anger component and the disruptive behavior items loaded onto a separate component. None of the anger items loaded above threshold onto the disruptive behavior component or vice versa.

items specifically assessed anger reactivity (i.e., “When my child gets angry, it is easy for him/her to still be rational and not overreact” and “My child is slow to become angry”). These items were averaged with the aforementioned item to create a 3-item anger scale for the present study ( $\alpha = .70$ ). Both source scales have been shown to be valid and reliable with samples similar to the present sample (Eisenberg, 2000; Zeman et al., 2002).

### ***Ethical Guilt***

Children responded to two vignettes from the Social-Emotional Responding Task (SERT; Malti, 2017) depicting pushing and stealing from another child. The SERT is comprised of seven vignettes depicting social transgressions. The other five vignettes depicted variations of social exclusion, failing to share, and conventional rule violations. Although participants completed all of these vignettes as part of a broader study, the remaining five vignettes were not analysed here because they did not depict instances of intentional physical or psychological harm in line with the present investigation’s conceptualizations of aggression and ethical violations. Children faced a computer screen while pre-recorded audio and visuals directed them, from a first-person perspective, to imagine themselves pushing and stealing (see Figure 1). Vignettes were counterbalanced and audio-visuals were matched to participants’ respective gender and skin tone. After each vignette, the research assistant asked children three questions. Question 1 asked, “How would you feel if you did this?”. Question 2 asked, “Why would you feel [anticipated emotion given in response to Question 1]?”. Both of these questions were open ended, and children responded verbally. Question 3 asked, “How strongly would you feel [anticipated emotion given in response to Question 1]?”. Children responded to this question by pointing to a 3-point scale depicting squares of increasing size.

**Ethical Guilt Coding.** Two raters independently coded all emotions and reasons (i.e., responses to Questions 1 and 2). The coders discussed disagreements until a consensus was reached. Specifically, “bad”, “sad”, “sorry”, and “guilty” emotions were coded 1 (*guilt-related*), whereas “neutral”, “happy”, “proud”, “angry”, “scared”, and other or unrelated negative emotions were coded 0 (*not guilt-related*). Simplified negative feelings like bad and sad were included with guilt because children rarely reported guilt verbatim. Reasons were coded into one of four categories. *Ethical* reasons reflected appeals to principles of fairness, justice, and harm, or references to the welfare of others (e.g., “It’s not fair to steal”, “He’ll be sad”). *Sanction-oriented/conventional* reasons reflected censure from authority figures or peers, concerns over anticipated rule violations, or disruptions to group functioning (e.g., “I’ll get in trouble by the teacher”, “It’s against the rules”). *Hedonistic/justifying* reasons reflected self-centered benefits or excuses for the behavior (e.g., “I love lollipops”, “He didn’t want it anyway”). An *unelaborated/other* category was used for all other reasons (e.g., “Because”, “It’s bad”). Since the present study framed guilt as an ethical emotion that protects against aggression, only *guilt-related* emotions with *ethical* reasons were deemed indicative of guilt. These ethical guilt scores were then assigned a corresponding intensity rating from 1 = *not strong guilt* to 3 = *very strong guilt* based on children’s responses to Question 3. All other emotion-reason pairings received a score of 0 (*not guilt*) regardless of the intensity rating reported by the children, as such responses were not indicative of ethical guilt (i.e., no guilt-related emotion with ethical reasoning present). Responses with unelaborated/other reasoning (5.5%) were coded as missing because it was impossible to determine the presence/absence of ethical guilt from them. Scores were aggregated across the two vignettes ( $r = .38, p < .001$ ) to create a single ethical guilt score for each child.

A recent study with a sample of 1,179 6- to 13-year-olds documented sufficient internal consistency for children's emotional responding to vignettes depicting ethical transgressions that were the same or similar to those depicted in the current study (i.e., Jansma et al., 2018). With respect to validity, previous studies utilizing the same stories and the same or similar coding systems as the current study have documented links to an array of antisocial and prosocial behaviors in middle childhood (both concurrently and over time; for a meta-analysis, see Malti & Krettenauer, 2013; Malti et al., 2016).

## Results

### Analysis Plan

Two multiple regression models were conducted in *Mplus* 8 (Muthén & Muthén, 1998–2017) using the MLR (i.e., maximum likelihood with standard errors robust) estimator to test for unique associations between predictors (anger, ethical guilt, and their interaction) and the outcomes of aggression (first model) and non-aggressive disruptive behavior (second model), respectively. For each model, gender and aggression/non-aggressive disruptive behavior (depending on the outcome under consideration) were entered as control variables. Controlling for non-aggressive disruptive behavior ensured that any resulting variance explained by predictors was unique to aggression (and vice versa when predicting non-aggressive disruptive behavior). Estimating separate models that control for the non-focal behavioral subtype is a widely used approach to test specific developmental mechanisms underlying problem behavior subtypes (e.g., Arsenio et al., 2009; Song et al., 2020). The Anger x Ethical Guilt interactions predicting aggression and non-aggressive disruptive behavior tested the hypotheses that higher anger would be associated with lower aggression and higher non-aggressive disruptive behaviors for children higher versus lower in ethical guilt. Follow-up multi-group analyses and Wald tests

were conducted to assess gender differences in relations between variables—parameters that varied significantly by gender are reported separately for girls and boys.

### **Preliminary Analyses**

Rates of missingness were 0%, 0%, 0.7%, and 3.3% for aggression, non-aggressive disruptive behavior, anger, and ethical guilt, respectively. Little's missing completely at random (MCAR) test was not significant,  $\chi^2(6, N = 150) = 6.89, p = .33$ , suggesting that missing data were not systematically associated with observed scores. We therefore estimated missing data using full information maximum likelihood estimation under the MCAR assumption.

Descriptive statistics and zero-order correlations by gender are displayed in Table 2. On average, aggression was less frequent and variable than non-aggressive disruptive behavior. As expected, aggression and non-aggressive disruptive behavior were significantly and positively correlated (although ~72% of their variance was unshared), and anger was significantly and positively correlated with both outcomes. These correlations held across genders, but independent samples t-tests revealed that boys were rated higher in aggression than girls.

### **Predicting Aggression and Non-Aggressive Disruptive Behavior from Anger and Ethical Guilt**

The full results of the aggression model and the non-aggressive disruptive behavior model are presented in Table 3. For the first model predicting aggression, there was a strong positive effect of non-aggressive disruptive behavior and a significant effect of gender (i.e., boys were rated higher in aggression). Following up on the differential effect of gender with multi-group analyses, there was a positive effect of anger for boys; however, this was qualified by a significant Anger x Ethical Guilt interaction, also for boys only. Upon probing the interaction effect in boys—in line with our hypothesis and replicating previous findings (Colasante et al.,



2015, 2016)—higher anger was associated with higher aggression for boys with lower guilt,  $\beta = .61$ ,  $p < .001$ , 95% CI [0.40, 0.82], but not higher guilt,  $\beta = .03$ ,  $p = .83$ , 95% CI [-0.28, 0.35] (see Figure 2). No other significant gender differences were detected for this model,  $W_s(1) = 0.05$ , 1.14,  $p_s = .29$ , .82.

For the second model predicting non-aggressive disruptive behavior, similarly, there was a strong positive effect of aggression. A positive effect of anger emerged, but there was also a significant Anger x Ethical Guilt interaction. In line with our hypothesis, higher anger was associated with higher non-aggressive disruptive behavior for children with higher guilt,  $\beta = .52$ ,  $p < .001$ , 95% CI [0.15, 0.56], but not lower guilt,  $\beta = .18$ ,  $p = .13$ , 95% CI [-0.05, 0.42] (see Figure 3). No significant differences between girls and boys emerged for this model,  $W_s(1) = 0.03$ –2.49,  $p_s = .11$ –.86.

### Discussion

Links between anger and aggression are well documented in childhood (Lochman et al., 2010), and childhood aggression is associated with a host of negative intrapersonal and interpersonal problems (e.g., low academic achievement, internalizing symptoms, rejection from peers, and more frequent and earlier involvement with the criminal justice system; Eisner & Malti, 2015; Lochman et al., 2010; Moilanen et al., 2010). In the present study, we replicated past findings (i.e., Colasante et al., 2015, 2016) implicating ethical guilt as a buffer of the anger–aggression link. Extending past findings, our results further suggest that a strong sense of guilt over violating others' welfare directs children's anger towards non-aggressive disruptive behaviors instead of aggression. As such, using ethical guilt to disrupt the association between anger and aggression in childhood may have positive implications for some children's concurrent and long-term well-being.

In line with our first hypothesis, higher anger was associated with more aggression in children with lower but not higher ethical guilt. This replicates previous findings (Colasante et al., 2015, 2016) and is consistent with developmental literature demonstrating the complex protective effects of ethical guilt in middle childhood (e.g., Colasante & Malti, 2020; Malti, 2016). Proneness towards experiencing ethical guilt may highlight the harmful and unethical consequences of one's actions, thus discouraging children from engaging in anger-driven behaviors that harm others (see Eisenberg et al., 2014; Malti & Latzko, 2012). For children who value principles of fairness, justice, and refraining from harm, painful feelings of ethical guilt after externalizing anger as aggression may simply be perceived as too costly, therefore decreasing their likelihood of behaving aggressively when angry (for similar explanations, see Colasante et al., 2015, 2016). This is promising from an applied developmental perspective, as it suggests that teaching ethical guilt may be a useful complementary strategy for reducing aggression—but not non-aggressive disruptive behavior—in some youth. It may be particularly helpful if one is aiming to reduce harmful behaviors in youth for whom more general strategies aiming to reduce *all* disruptive behaviors have been unsuccessful.

However, this buffering effect was only significant for boys in the current study. It is possible that some girls in our study were less likely to externalize their anger as aggression in the first place, regardless of their ethical guilt proneness. In addition to engaging in defiance, girls may use other techniques to curb the link between anger and aggression, such as emotion suppression (i.e., a regulatory technique more strongly socialized in girls; Kerr & Schneider, 2008; Zahn-Waxler et al., 2000). The buffering effects of ethical guilt may be particularly significant for boys because these other channels for managing anger are not as heavily socialized in them (Kerr & Schneider, 2008). Other possible explanations stem from differences

in the current study's sample and measure of aggression. Regarding similar prior studies, gender was only included as a control variable (main effect) in the Colasante et al. (2015) study. Gender differences in the interaction of anger and ethical guilt were explored in the Colasante et al. (2016) study but were nonsignificant. However, the latter study included both 4- and 8-year-olds, and the sample of 8-year-olds was relatively small ( $n = 43$ ), which substantially reduces power to detect a significant three-way interaction. If the gender differences found in the current sample of 150 eight-year-olds are restricted to middle childhood, the lack of gender interaction in the Colasante et al. (2016) paper may be explained by the sample characteristics of that study. Furthermore, the precise and predominantly physical measure of aggression employed in the present study may not have adequately captured the types of aggressive behaviors in which girls commonly engage. Given past research suggesting that girls are less likely to engage in physical aggression and more likely to engage in relational aggression than boys (Lansford et al., 2012), girls lower in guilt may externalize their anger as relational aggressive acts not captured by the measure of aggression used here (e.g., damaging others' reputations).

In support of our novel second hypothesis, we extended previous findings and discovered that, in addition to predicting less aggression, higher anger was associated with higher disruptive behavior in children with higher but not lower ethical guilt. This provides the first insight into the process by which ethical guilt buffers the anger–aggression link. Notably, although ethical guilt seems to disrupt the association between anger and aggression, it may not regulate anger in and of itself. Instead, ethical guilt may channel children's angry impulses into other disruptive behaviors, like arguing and screaming, that do not go against ethical principles of justice, fairness, and refraining from harm. From this perspective, children high in ethical guilt may still feel the urge to externalize their anger but choose (either consciously or unconsciously) to do so

in a manner consistent with their ethical principles to both let out their anger and simultaneously avoid the anticipated painful feelings of ethical guilt that would arise if they behaved aggressively. The anticipation of guilt may be one mechanism or process by which children's internalized ethical principles operate on their behavior. From a social information processing perspective, it is possible that children's anticipated emotional responses to ethical violations may intervene against aggression at the "response decision" level, where children evaluate possible responses to their social surroundings and the consequences of those responses (Arsenio & Lemerise, 2004). Anticipated painful feelings of guilt driven by children's ethical principles may prompt them to weigh behavioral consequences and select less harmful externalizing behaviors when angry (see Malti, 2016). This finding may also speak to a need to use more nuanced measurements of disruptive behaviors in intervention work, as the benefits of teaching ethical guilt may not be captured if general measures of disruptive behaviors are used to gauge intervention efficacy rather than taking into account nuances of whether or not disruptive behaviors cause harm to others.

This novel finding also aligns with the early psychoanalytic theory of symptom substitution. According to proponents of this theory, treating a symptom without addressing the underlying cause of that symptom is theorized to result in the appearance of a new symptom (Freud, 2016). This theory suggests that ethical guilt may act as a protective mechanism against anger-driven aggressive behaviors in children (i.e., aggression being the symptom which is "treated" by guilt), but it does not address the underlying issue (i.e., anger). Therefore, when ethical guilt disrupts the link between anger and aggressive behaviors, the anger could merely manifest elsewhere (e.g., as a non-aggressive disruptive behavioral "substitute"). Nonetheless,

this parallel with psychoanalytic theory should be made with caution because the present study did not focus on clinically significant levels of anger and aggression.

Although fostering ethical guilt in anger-prone children with inductive socialization processes may help reduce outbursts of aggression, other concurrent treatment strategies—such as teaching emotion regulation—may be needed if eliminating *all* disruptive behaviors is the goal. However, considering the long-term negative effects of aggression for both aggressors and their victims (Eisner & Malti 2015), promoting ethical guilt to deter aggression may be a viable and satisfactory strategy for children who struggle with anger regulation—especially if the anger occurs in situations where the child is at risk of harming others (e.g., in the classroom). Thus, these findings add new information regarding the potential boundaries of inductive socialization practices aimed at reducing disruptive behavior and may help determine when such practices should be supplemented with other strategies for a more comprehensive treatment approach.

Although this study had many strengths, it was not without limitations. We employed a multi-method, multi-informant approach, which strengthens the validity of our findings by reducing the risk of shared method variance. However, our design was cross-sectional and correlational in nature. As such, we cannot adequately speak to the temporal ordering of these effects, nor can we speak to causality. Although there is a strong theoretical basis for the assumption that ethical guilt disrupts the anger–aggression link by affecting how anger is externalized and the current study is the third to generate findings in support of this theorizing, future longitudinal and experimental research is needed to support the proposed directionality of these findings. For example, experimental designs using ethical guilt induction, or the priming of ethical principles, could be used to see if ethical guilt affects how anger is externalized within an anger elicitation paradigm (e.g., Smith et al., 2011). Additionally, the current investigation’s

measures of aggression, non-aggressive disruptive behavior, and anger were created for this study as existing measures included items with significant overlap between such constructs. Although we attempted to account for this by carefully selecting available items for each construct, future research should employ other carefully screened instruments with more items per construct or pursue the development of other experimental tasks that fit each construct with as little overlap as possible. Furthermore, we conducted this study with a community sample of children, and thus the levels of aggression recorded in this study rarely reached clinically significant levels. Therefore, more research is needed to know if ethical guilt has this same effect on children with clinically significant levels of aggression—especially since these samples tend to display callous-unemotional traits more often than community samples (for a review, see Frick & White, 2008). Lastly, although our research featured an ethnically diverse sample, explorations of the protective effects of ethical guilt against the externalization of anger as aggression have thus far only been explored in North America. Therefore, we urge researchers to attempt to replicate the present findings cross-culturally.

In sum, this study replicated previous work on ethical guilt's role in buffering the anger–aggression link and was the first to examine the process by which ethical guilt disrupts the association between anger and aggression. Notably, our findings suggest that a strong sense of ethical guilt does not “stamp out” anger, but rather redirects it into other disruptive behaviors that are less harmful and less antithetical to ethical principles. This novel finding underscores the intense and stubborn nature of anger, and further suggests that treatment and educational approaches should consider combining inductive socialization practices to promote ethical guilt with the teaching of emotion regulation strategies as these may be beneficial to some children. In combination with other forms of intervention, teaching ethical guilt may help some children

quell anger when it can be quelled and redirect it into less harmful outlets when it is too strong to be tamed.

### References

- Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA preschool forms & profiles*. University of Vermont.
- Althoff, R. R., Kuny-Slock, A. V., Verhulst, F. C., Hudziak, J. J., & van der Ende, J. (2014). Classes of oppositional-defiant behavior: Concurrent and predictive validity. *Journal of Child Psychology and Psychiatry*, 55(10), 1162–1171. <https://doi.org/10.1111/jcpp.12233>
- Arsenio, W. F., Adams, E., & Gold, J. (2009). Social information processing, moral reasoning, and emotion attributions: Relations with adolescents' reactive and proactive aggression. *Child Development*, 80(6), 1739–1755. <https://doi.org/10.1111/j.1467-8624.2009.01365.x>
- Arsenio, W. F., Cooperman, S., & Lover, A. (2000). Affective predictors of preschoolers' aggression and peer acceptance: Direct and indirect effects. *Developmental Psychology*, 36(4), 438–448. <https://doi.org/10.1037/0012-1649.36.4.438>
- Arsenio, W. F., Gold, J., & Adams, E. (2006). Children's conceptions and displays of moral emotions. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (pp. 599–628). Psychology Press.
- Arsenio, W. F., & Lemerise, E. A. (2004). Aggression and moral development: Integrating social information processing and moral domain models. *Child Development*, 75(4), 987–1002. <https://doi.org/10.1111/j.1467-8624.2004.00720.x>
- Averill, J. R. (1982). *Anger and aggression: An essay on emotion*. Springer.
- Bartels, M., Hudziak, J. J., Van den Oord, E. J. C. G., Van Beijsterveldt, C. E. M., Rietveld, M. J. H., & Boomsma, D. I. (2003). Co-occurrence of aggressive behavior and rule-breaking



behavior at age 12: Multi-rater analyses. *Behavior Genetics*, 33(5), 607–621.

<https://doi.org/10.1023/A:1025787019702>

Beauchaine, T. P., Hong, J., & Marsh, P. (2008). Sex differences in autonomic correlates of conduct problems and aggression. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(7), 788–796. <https://doi.org/10.1097/CHI.Ob013e318172ef4b>

Berkowitz, L. (1989). Frustration-aggression hypothesis: Examination and reformulation. *Psychological Bulletin*, 106(1), 59–73. <https://doi.org/10.1037/0033-2909.106.1.59>

Blake, C. S., & Hamrin, V. (2007). Current approaches to the assessment and management of anger and aggression in youth: A review. *Journal of Child and Adolescent Psychiatric Nursing*, 20(4), 209–221. <https://doi.org/10.1111/j.1744-6171.2007.00102.x>

Burt, S. A. (2012). How do we optimally conceptualize the heterogeneity within antisocial behavior? An argument for aggressive versus non-aggressive behavioral dimensions. *Clinical Psychology Review*, 32(4), 263–279. <https://doi.org/10.1016/j.cpr.2012.02.006>

Burt, S. A., Donnellan, M. B., Iacono, W. G., & McGue, M. (2011). Age-of-onset or behavioral sub-types? A prospective comparison of two approaches to characterizing the heterogeneity within antisocial behavior. *Journal of Abnormal Child Psychology*, 39(5), 633–644. <https://doi.org/10.1007/s10802-011-9491-9>

Colasante, T., Jambon, M., Gao, X., & Malti, T. (2020). A process model linking physiological arousal and fear recognition to aggression via guilt in middle childhood. *Development and Psychopathology*, 33(1), 1–13. Advance online publication.

<https://doi.org/10.1017/S0954579419001627>

Colasante, T., & Malti, T. (2020). Guilt. In S. Hupp & J. Jewell (Series Eds.), *The encyclopedia of child and adolescent development (Vol. 4): Emotion in childhood*. Wiley-Blackwell.

<http://doi.org/10.1002/9781119171492>

Colasante, T., Zuffiano, A., & Malti, T. (2015). Do moral emotions buffer the anger-aggression link in children and adolescents? *Journal of Applied Developmental Psychology, 41*, 1–7.

<https://doi.org/10.1016/j.appdev.2015.06.001>

Colasante, T., Zuffianò, A., & Malti, T. (2016). Daily deviations in anger, guilt, and sympathy: A developmental diary study of aggression. *Journal of Abnormal Child Psychology, 44*(8),

1515–1526. <https://doi.org/10.1007/s10802-016-0143-y>

Eisenberg, N. (2000). Emotion, regulation, and moral development. *Annual Review of Psychology, 51*(1), 665–697. <https://doi.org/10.1146/annurev.psych.51.1.665>

Eisenberg, N., Spinrad, T. L., & Morris, A. (2014). Empathy-related responding in children. In M. Killen & J. Smetana (Eds.), *Handbook of moral development* (2<sup>nd</sup> ed., pp. 184–207). Psychology Press.

Eisner, M. P., & Malti, T. (2015). Aggressive and violent behavior. In M. E. Lamb & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science (Vol. 3): Social, emotional and personality development* (7<sup>th</sup> ed., pp. 795–884). Wiley.

Frick, P. J., Lahey, B. B., Loeber, R., Tannenbaum, L., Van Horn, Y., Christ, M. A. G., Hart, E. A., & Hanson, K. (1993). Oppositional defiant disorder and conduct disorder: A meta-analytic review of factor analyses and cross-validation in a clinic sample. *Clinical Psychology Review, 13*(4), 319–340. [https://doi.org/10.1016/0272-7358\(93\)90016-F](https://doi.org/10.1016/0272-7358(93)90016-F)

Frick, P. J., & White, S. F. (2008). Research review: The importance of callous-unemotional traits for developmental models of aggressive and antisocial behavior. *Journal of Child*

*Psychology and Psychiatry*, 49(4), 359–375. <https://doi.org/10.1111/j.1469-7610.2007.01862.x>

Freud, S. A. (2016). *General introduction to psychoanalysis* (G. S. Hall, Trans.). Washington Square Press. (Original work published 1915–1917)

Harden, K. P., Patterson, M. W., Briley, D. A., Engelhardt, L. E., Kretsch, N., Mann, F. D., Tackett, J. L., & Tucker-Drob, E. M. (2015). Developmental changes in genetic and environmental influences on rule-breaking and aggression: Age and pubertal development. *Journal of Child Psychology and Psychiatry*, 56(12), 1370–1379. <https://doi.org/10.1111/jcpp.12419>

Hudziak, J. J., Copeland, W., Stanger, C., & Wadsworth, M. (2004). Screening for DSM-IV externalizing disorders with the Child Behavior Checklist: A receiver-operating characteristic analysis. *Journal of Child Psychology and Psychiatry*, 45(7), 1299–1307. <http://doi.org/10.1111/j.1469-7610.2004.00314.x>

Hyde, L. W., Shaw, D. S., Gardner, F., Cheong, J., Dishion, T. J., & Wilson, M. (2013). Dimensions of callousness in early childhood: Links to problem behavior and family intervention effectiveness. *Development and Psychopathology*, 25(2), 347–363. <https://doi.org/10.1017/S0954579412001101>

Kerr, M. A., & Schneider, B. H. (2008). Anger expression in children and adolescents: A review of the empirical literature. *Clinical Psychology Review*, 28(4), 559–577. <https://doi.org/10.1016/j.cpr.2007.08.001>

Kochanska, G., Gross, J. N., Lin, M. H., & Nichols, K. E. (2002) Guilt in young children: Development, determinants, and relations with a broader system of standards. *Child Development*, 73(2), 461–482. <https://doi.org/10.1111/1467-8624.00418>

- Kochanska, G., Barry, R., Aksan, N., & Boldt, L. J. (2008) A developmental model of maternal and child contributions to disruptive conduct: The first six years. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 49(11), 1220–1227.  
<https://doi.org/10.1111/j.1469-7610.2008.01932.x>
- Lansford, J. E., Skinner, A. T., Sorbring, E., Giunta, L. D., Deater-Deckard, K., Dodge, K. A., Malone, P. S., Oburu, P., Pastorelli, C., Tapanya, S., Uribe Tirado, L. M., Zelli, A., Al-Hassan, S. M., Peña Alampay, L., Bacchini, D., Bombi, A. S., Bornstein, M. H., & Chang, L. (2012). Boys' and girls' relational and physical aggression in nine countries. *Aggressive Behavior*, 38(4), 298–308. <https://doi.org/10.1002/ab.21433>
- Larsen, R. J., & Diener, E. (1987). Affect intensity as an individual difference characteristic: A review. *Journal of Research in Personality*, 21(1), 1–39. [https://doi.org/10.1016/0092-6566\(87\)90023-7](https://doi.org/10.1016/0092-6566(87)90023-7)
- Larson, J., & Lochman, J. E. (2002). *Helping school children cope with anger: A cognitive-behavioral intervention*. Guilford Press.
- Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist*, 46(8), 819–834. <https://doi.org/10.1037//0003-066x.46.8.819>
- Lee, A. H., & DiGiuseppe, R. (2018). Anger and aggression treatments: A review of meta-analyses. *Current Opinion in Psychology*, 19, 65–74.  
<https://doi.org/10.1016/j.copsyc.2017.04.004>
- Lochman, J. E., Barry, T., Powell, N., & Young, L. (2010). Anger and aggression. In D. W. Nangle, D. J. Hansen, C. A. Erdley, & P. J. Norton (Eds.), *Practitioner's guide to empirically based measures of social skills* (pp. 155–166). Springer.

- 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*(4), 571–578. <https://doi.org/10.1037/0022-006X.72.4.571>
- Malti, T. (2016). Toward an integrated clinical-developmental model of guilt. *Developmental Review, 39*, 16–36. <https://doi.org/10.1016/j.dr.2015.11.001>
- Malti, T. (2017). Social-emotional Responding Task (SERT). Unpublished test materials.
- Malti, T., Dys, S., Colasante, T., & Peplak, J. (2018). Emotions and morality: New developmental perspectives. In C. Helwig (Ed.), *New perspectives on moral development* (pp. 55–72). Routledge.
- Malti, T., & Krettenauer, T. (2013). The relation of moral emotion attributions to prosocial and antisocial behavior: A meta-analysis. *Child Development, 84*(2), 397–412. <https://doi.org/10.1111/j.1467-8624.2012.01851.x>
- Malti, T., & Latzko, B. (2012). Moral emotions. In V. Ramachandran (Ed.), *Encyclopedia of human behavior* (2nd ed., pp. 644–649). Elsevier.
- Malti, T., & Ongley, S. F. (2014). The development of moral emotions and moral reasoning. In M. Killen & J. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 163–183). Psychology Press.
- Mann, F. D., Tackett, J. L., Tucker-Drob, E. M., & Harden, K. P. (2017). Callous-unemotional traits moderate genetic and environmental influences on rule-breaking and aggression: Evidence for gene  $\times$  trait interaction. *Clinical Psychological Science, 6*(1), 123–133. <https://doi.org/10.1177/2167702617730889>
- Moilanen, K. L., Shaw, D. S., & Maxwell, K. L. (2010). Developmental cascades: Externalizing, internalizing, and academic competence from middle childhood to early

adolescence. *Development and Psychopathology*, 22(3), 635–653.

<http://doi.org/10.1017/S0954579410000337>

Moore, C. C., Hubbard, J. A., Bookhout, M. K., & Mlawer, F. (2019). Relations between reactive and proactive aggression and daily emotions in adolescents. *Journal of Abnormal Child Psychology*, 47(9), 1495–1507. <https://doi.org/10.1007/s10802-019-00533-6>

Muthén, L., & Muthén, B. (1998–2017). *Mplus user's guide*. Muthén & Muthén.

Neumann, A., van Lier, P. A. C., Frijns, T., Meeus, W., & Koot, H. M. (2011). Emotional dynamics in the development of early adolescent psychopathology: A one-year longitudinal study. *Journal of Abnormal Child Psychology*, 39(5), 657–669.

<https://doi.org/10.1007/s10802-011-9509-3>

Nivette, A. E., Eisner, M., Malti, T., & Ribeaud, D. (2014). Sex differences in aggression among children of low and high gender inequality backgrounds: A comparison of gender role and sexual selection theories. *Aggressive Behavior*, 40(5), 451–464.

<https://doi.org/10.1002/ab.21530>

Nunner-Winkler, G., & Sodian, B. (1988). Children's understanding of moral emotions. *Child Development*, 59(5), 1323–1328. <https://doi.org/10.2307/1130495>

Potegal, M., & Archer, J. (2004). Sex differences in childhood anger and aggression. *Child and Adolescent Psychiatric Clinics*, 13(3), 513–528. <https://doi.org/10.1016/j.chc.2004.02.004>

Rivers, S. E., Brackett, M. A., Katulak, N. A., & Salovey, P. (2007). Regulating anger and sadness: An exploration of discrete emotions in emotion regulation. *Journal of Happiness Studies*, 8(3), 393–427. <https://doi.org/10.1007/s10902-006-9017-2>

Rothenberg, W. A., Di Giunta, L., Lansford, J. E., Lunetti, C., Fiasconaro, I., Basili, E., Thartori, E., Pastorelli, C., Eisenberg, N., Amico, F., Rosa, M., & Cirimele, F. (2019). Daily

associations between emotions and aggressive and depressive symptoms in adolescence:

The mediating and moderating role of emotion dysregulation. *Journal of Youth and*

*Adolescence*, 48(11), 2207–2221. <http://doi.org/10.1007/s10964-019-01071-6>

Rydell, A. M., Berlin, L., & Bohlin, G. (2003). Emotionality, emotion regulation, and adaptation

among 5-to 8-year-old children. *Emotion*, 3(1), 30–47. [https://doi.org/10.1037/1528-](https://doi.org/10.1037/1528-3542.3.1.30)

[3542.3.1.30](https://doi.org/10.1037/1528-3542.3.1.30)

Song, J. -H., Colasante, T., & Malti, T. (2020). Taming anger and trusting others: Roles of skin

conductance level, anger regulation, and trust in children's proactive and reactive

aggression. *British Journal of Developmental Psychology*, 38(1), 42–58.

<http://doi.org/10.1111/bjdp.12304>

Smith, M., Hubbard, J. A., & Laurenceau, J. P. (2011). Profiles of anger control in second-grade

children: Examination of self-report, observational, and physiological components. *Journal*

*of Experimental Child Psychology*, 110(2), 213–226.

<https://doi.org/10.1016/j.jecp.2011.02.006>

Statistics Canada. (2018). Census profile, 2016 census. Mississauga, Ontario. Retrieved October

14, 2021, from <https://www12.statcan.gc.ca/census-recensement/2016/dp->

[pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3521005&Geo2=CD&Code2=35](https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3521005&Geo2=CD&Code2=3521&SearchText=mississauga&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=0)

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[ype=0](https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3521005&Geo2=CD&Code2=3521&SearchText=mississauga&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=0)

Stormshak, E. A., Bierman, K. L., McMahon, R. J., & Lengua, L. J. (2000). Parenting practices

and child disruptive behavior problems in early elementary school. *Journal of Clinical*

*Child Psychology*, 29(1), 17–29. [https://doi.org/10.1207/S15374424jccp2901\\_3](https://doi.org/10.1207/S15374424jccp2901_3)

- Tackett, J. L., Krueger, R. F., Iacono, W. G., & McGue, M. (2005). Symptom-based subfactors of DSM-defined conduct disorder: Evidence for etiologic distinctions. *Journal of Abnormal Psychology, 114*(3), 483–487. <https://doi.org/10.1037/0021-843X.114.3.483>
- Thompson, R. A., & Goodman, M. (2010). Development of emotion regulation: More than meets the eye. In A. M. Kring & D. M. Sloan (Eds.), *Emotion regulation and psychopathology: A transdiagnostic approach to etiology and treatment* (pp. 38–58). Guilford Press
- van Doorn, J., Zeelenberg, M., & Breugelmans, S. M. (2014). Anger and prosocial behavior. *Emotion Review, 6*(3), 261–268. <https://doi.org/10.1177/1754073914523794>
- Willoughby, M. T., Waschbusch, D. A., Moore, G. A., & Propper, C. B. (2011). Using the ASEBA to screen for callous unemotional traits in early childhood: Factor structure, temporal stability, and utility. *Journal of Psychopathology and Behavioral Assessment, 33*(1), 19–30. <https://doi.org/10.1007/s10862-010-9195-4>
- Zahn-Waxler, C., Klimes-Dougan, B., & Slattery, M. J. (2000). Internalizing problems of childhood and adolescence: Prospects, pitfalls, and progress in understanding the development of anxiety and depression. *Development and Psychopathology, 12*(3), 443–466. <https://doi.org/10.1017/S0954579400003102>
- Zeman, J., Shipman, K., & Suveg, C. (2002). Anger and sadness regulation: Predictions to internalizing and externalizing symptoms in children. *Journal of Clinical Child and Adolescent Psychology, 31*(3), 393–398. [https://doi.org/10.1207/S15374424JCCP3103\\_11](https://doi.org/10.1207/S15374424JCCP3103_11)



**Table 1**

*Hypothesized Aggression, Non-Aggressive Disruptive Behavior, and Other Items From the Aggressive Behavior Syndrome Scale of the CBCL 6–18*

Aggression	Non-Aggressive Disruptive Behavior	Other
Cruelty, bullying, or meanness to others	Argues	Destroys his/her own things
Destroys things belonging to his/her family or others	Demands a lot of attention	Sudden changes in mood or feelings
Gets in fights	Disobedient at home	Sulks
Physically attacks people	Disobedient at school	Suspicious
Teases	Screams	Temper tantrums or hot tempers
Threatens people	Stubborn, sullen, or irritable	
	Unusually loud	

*Note.* “Disobedient at school” loaded alongside the aggression items in a PCA and was thus dropped from subsequent analyses.

**Table 2***Correlations and Descriptive Statistics*

Variable	1	2	3	4	$M_{\text{girls}} (SD)$	$M_{\text{boys}} (SD)$	$t$	Observed Range	Scale Range
1. Aggression	1	.50***	.51***	-.12	.39 (0.41)	.58 (0.60)	-2.28*	0–2.67	0–6
2. Non-Aggressive Disruptive Behavior	.55***	1	.44***	-.07	1.50 (1.15)	1.44 (0.83)	0.38	0–6	0–6
3. Anger	.36***	.58***	1	-.12	2.20 (1.37)	2.45 (1.32)	-1.12	0–6	0–6
4. Ethical Guilt	-.05	-.05	-.05	1	1.94 (1.08)	1.72 (1.13)	1.17	0–3	0–3

*Note.* Correlations for girls and boys presented on the left and right side of the diagonal, respectively. T-tests conducted to detect mean-level gender differences. \*  $p < .05$ , \*\*\*  $p < .001$ .

**Table 3***Regressions Predicting Aggression and Non-Aggressive Disruptive Behavior*

Variable	Aggression Model				Non-Aggressive Disruptive Behavior Model			
	$\beta$	<i>p</i>	95% CI	Wald	$\beta$	<i>p</i>	95% CI	Wald
Anger	.08 <sup>a</sup> .32 <sup>b</sup>	.46 <sup>a</sup> <.001 <sup>b</sup>	[-0.13, 0.28] <sup>a</sup> [0.16, 0.49] <sup>b</sup>	<b>6.20</b>	.37	<.001	[0.18, 0.56]	2.49
Ethical Guilt	-.05	.54	[-0.19, 0.10]	0.05	.003	.96	[-0.11, 0.12]	0.03
Anger x Ethical Guilt	.11 <sup>a</sup> -.27 <sup>b</sup>	.40 <sup>a</sup> <.01 <sup>b</sup>	[-0.15, 0.37] <sup>a</sup> [-0.47, -0.07] <sup>b</sup>	<b>6.44</b>	.17	<.05	[0.004, 0.34]	0.37
Gender	.17	.01	[0.04, 0.29]	—	-.12	.06	[-0.25, 0.004]	—
Aggression	—	—	—	—	.36	<.001	[0.20, 0.51]	1.44
Non-Aggressive Disruptive Behavior	.38	<.001	[0.26, 0.51]	1.14	—	—	—	—
<i>R</i> <sup>2</sup>	.34				.38			

*Note.* Gender (0 = *girl*, 1 = *boy*). Wald tests for gender differences in parameters. Significant Wald tests bolded. <sup>a</sup> unique estimate for girls. <sup>b</sup> unique estimate for boys.



Figure 1. Visuals for vignettes depicting a) stealing and b) pushing.

Note. Visuals progressed from left to right. All rights reserved © (Tina Malti).

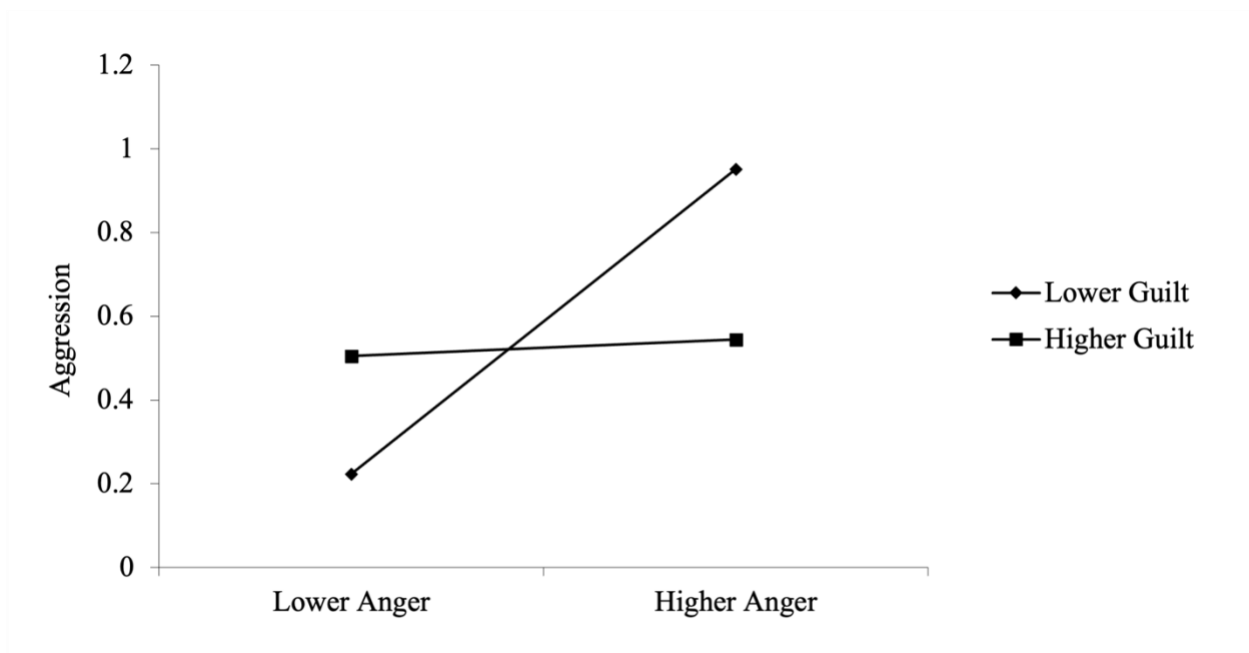


Figure 2. Anger predicting aggression at lower (-1 SD) and higher (+1 SD) levels of ethical guilt for boys. Slope for higher ethical guilt was non-significant.

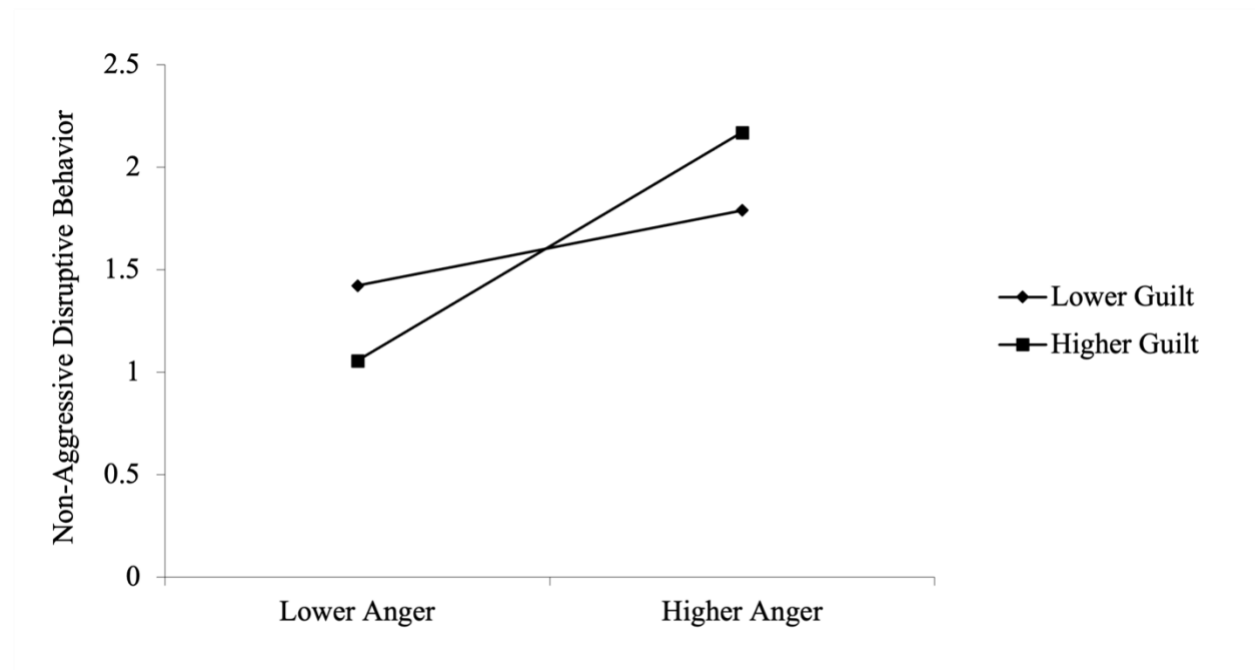


Figure 3. Anger predicting non-aggressive disruptive behavior at lower (-1 SD) and higher (+1 SD) levels of ethical guilt. Slope for lower ethical guilt was non-significant.