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RESEARCH ARTICLE

AGGRESSIVE BEHAVIOR | WILEY

Relations between forms and functions of aggression and moral judgments of aggressive transgressions

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Abstract

The present study sought to examine the influence of aggressive behavior, psychopathy, and gender on moral judgments of aggressive transgressions. A two-dimensional conceptualization of aggression was used, such that proactive relational aggression, reactive relational aggression, proactive physical aggression, and reactive physical aggression were treated as distinct subtypes of aggression and also as distinct subtypes of moral judgments of aggression. Participants were 421 emerging adults (215 women). Self-report measures of aggression, psychopathy, and moral judgments were collected. Peer-reports of aggression and psychopathy were obtained from a randomly assigned subsample of 73 participants (46 women) for validity purposes. Unique associations were found between subtypes of aggression and corresponding moral judgments of the same subtypes.

KEYWORDS
aggression, moral judgments, peers, psychopathy

1 | INTRODUCTION

Aggression is a psychological construct that is associated with a vast number of mental health consequences for both children and adults. It is defined by the intent to hurt, harm, or injure another individual (Dodge, Coie, & Lynam, 2006), and can be classified by both form and function (Little, Jones, Heinrich, & Hawley, 2003). Forms of aggression include physical aggression, which involves bodily manipulation through behaviors such as hitting and kicking, and relational aggression, which involves manipulation of a relationship through behaviors such as rumor spreading, social exclusion, or threatening to withdraw friendship (Crick & Grotpeter, 1995; Eisner & Malti, 2015). Classification of aggression by function yields either proactive or reactive aggression. Proactive aggression is goal-directed and purposeful and occurs without provocation. It is typically used to obtain a desired resource, and as such is frequently motivated by the perpetrator's belief that a positive outcome will result (Dodge & Coie, 1987). By contrast, reactive aggression is impulsive, and is motivated by an angry response to a perceived offense (Card & Little, 2006). Therefore, using both form and function to analyze aggressive behavior clarifies the structure of the behavior as well as its underlying motivation (see Ostrov, Blakely-McClure, Perry, & Kamper-DeMarco, 2018).

2 | FORMS AND FUNCTIONS OF AGGRESSION

Physical and relational aggression are known to have different developmental trajectories throughout childhood (e.g., Côté, Vaillancourt, Barker, Nagin, & Tremblay, 2007) and have each been observed to have effects on psychological adjustment. For example, Harachi et al. (2006) showed that children on physically aggressive trajectories throughout middle childhood were more likely to engage in covert delinquency, violent behavior, and substance use in ninth grade. Crick, Ostrov, and Werner (2006) showed that relationally aggressive children were more likely to demonstrate later internalizing problems including withdrawn behavior and symptoms of anxiety and depression, as well as later externalizing problems including delinquency after controlling for the effects of physical aggression (Crick et al., 2006). In addition, factor-analytic work has supported the independence of such forms (Prinstein, Boergers, & Vernberg, 2001; Verona, Sadeh, Case, Reed, & Bhattacharjee, 2008) as well as functions of aggression (Poulin & Boivin, 2000; Raine et al., 2006).

Forms and functions of aggression have been found to be inter-correlated at moderate to high levels (Little, Jones, Henrich, & Hawley, 2003), potentially preventing the observation of unique associations between types of aggression and particular outcomes (see

Bushman & Anderson, 2001). At the same time, each instance of aggressive behavior can be described both in terms of form and function (Underwood, 2003). To maintain ecological validity while assessing relations between subtypes of aggression and particular outcomes, a two-dimensional conceptualization of aggressive behavior was adopted in the current study; specifically, form and function were combined to create four subtypes of aggressive behavior: *proactive physical aggression*, *reactive physical aggression*, *proactive relational aggression*, or *reactive relational aggression*. The clinical utility of this approach is supported by literature indicating that the function of a behavior can differentially predict outcomes even when the form remains the same (Ostrov & Houston, 2008; Prinstein & Cillessen, 2003). To address the problem of intercorrelation among forms and functions of aggression, nonfocal subtypes of aggressive behavior were simultaneously controlled.

3 | AGGRESSION, MORAL REASONING, AND SOCIAL COGNITION

As the concept of harm is both intrinsic and common to the definitions of morality and aggression (Tisak, Tisak, & Goldstein, 2006), aggression can be evaluated from a moral perspective. Importantly, a social cognitive framework can inform the study of moral evaluations of aggressive behavior. Arsenio and Lemerise (2004) put forth that Crick and Dodge's (1994) model of social information processing and a sociomoral reasoning framework may be combined. Crick and Dodge (1994) describe the distinct yet linked concepts of *latent mental structures* that comprise a "database" of social knowledge and the *online processing* of social events, which involves proceeding through a series of steps that include the detection, interpretation, and response to social stimuli. In the domain model of sociomoral reasoning, social understanding is organized into particular domains (moral, conventional, personal, and prudential) that inform individuals' reasoning about social situations (Murray-Close, Crick, & Galotti, 2006). Arsenio and Lemerise (2004) posit that these domains are latent knowledge structures from which children infer what constitutes moral versus non-moral situations. Of particular relevance to the current study, Arsenio and Lemerise (2004) indicate that the distinction between proactive and reactive aggression may be applicable to a sociomoral framework, as proactive aggression involves the dismissal of normative moral concerns when aggressors often have knowledge of these concerns in the first place. Furthermore, Arsenio and Lemerise (2004) point out that missing from both sociomoral and social information processing frameworks is an analysis of affective factors that contribute to moral cognition and socially competent behavior. To address this gap and test their model, we evaluated relations between aggressive behaviors and moral judgments of these behaviors, and also examined whether psychopathy influenced moral judgments of various aggressive transgressions.

Several studies conducted in middle-childhood samples have examined the relation between aggressive behavior and moral reasoning about aggressive scenarios. Astor (1994) administered children a structured interview involving scenarios of provoked and unprovoked aggression towards family members and peers. All children viewed the scenarios of unprovoked aggression as wrong, and children classified as violent more often approved of provoked violence than non-violent children. Gasser, Malti, and Gutzwiller-Helfenfinger (2012) also gave children a structured interview that asked them to respond to scenarios involving unprovoked and retaliatory physical and verbal aggression. Without regard to their level of aggression, children viewed unprovoked aggression as more wrong than retaliatory aggression. Missing from both Astor (1994) and Gasser et al. (2012) was an analysis of the participants' own levels of proactive and reactive aggression. Jambon and Smetana (2018) filled in this gap and examined the influence of functions of aggression on moral judgments in children between 4 and 6 years. Proactive aggression was associated with weaker moral-conventional domain distinctions; reactive aggression was associated with stronger moral-conventional domain distinctions. Without considering domain distinctions, however, proactive aggression was associated with stronger initial moral judgments, suggesting that effects may vary based on question type and may be susceptible to response bias.

Murray-Close, Crick, and Galotti (2006) examined how physically and relationally aggressive behavior was related to moral judgments of physical and relational aggression in a sample of fourth- and fifth-graders. Children who judged relationally aggressive behaviors as more wrong tended to be less likely to be nominated as relationally aggressive by their peers. Children who viewed physically aggressive behaviors as more wrong were less likely to be nominated as physically aggressive by their peers and showed lower levels of teacher-reported aggression. Similar to the literature connecting aggressive behavior with moral judgments, other research conducted in late middle childhood, adolescence, and emerging adulthood has established links between physical and relational aggression and beliefs in the normativity or acceptability of these behaviors (Bailey & Ostrov, 2008; Basow, Cahill, Phelan, Longshore, & McGillicuddy-DeLisi, 2007; Goldstein & Tisak, 2010; Werner & Nixon, 2005). Acceptability beliefs are conceptually similar to moral judgments but involve having individuals rate the moral acceptability of a behavior, rather than degree of wrongness (see Goldstein & Tisak, 2010). Altogether, research on acceptability beliefs and moral judgments suggests that there is consistency between children's beliefs about aggression and the level of aggression that they display (e.g., Murray-Close et al., 2006; Werner & Nixon, 2005). In the current study, we expected a similar pattern, such that individuals who endorse particular subtypes of aggressive behavior would be less likely to judge such behavior as wrong. We chose to focus on moral judgments rather than normative beliefs to more directly question an individual's moral reactions to aggressive transgressions. In addition, we addressed limitations of prior literature by having our outcome measure of moral judgments take both form and function into account rather than either one alone. Consequently, we sought to ascertain the existence of associations between subtypes of aggression and parallel subtypes of moral judgments and support the validity of a comprehensive measure of moral judgments.

4 | PSYCHOPATHY

To date, little research has examined personality traits that inform moral judgments of aggressive behavior. Psychopathy is a personality style characterized by shallow affect, lack of remorse, as well as deception and manipulation in interpersonal relationships (Hare & Neumann, 2009). These traits are accompanied by a deviant lifestyle marked by reckless behavior and disregard for social norms (Hare & Neumann, 2009). Psychological assessments of psychopathy typically identify the personality style and the deviant lifestyle as separate factors (e.g., Hare, 1991; Lilienfeld & Andrews, 1996), and the current study focuses on the factor related to personality style. In general, psychopathy is particularly pertinent to the study of moral judgments of aggression given the large amount of theoretical and empirical work linking psychopathic traits with impaired moral emotions and immoral behaviors, including aggression (e.g., Blair, 1997; Hare & Neumann, 2009).

Prior research has examined associations between psychopathy and forms and functions of aggression. Unique associations between psychopathy and both physical and relational forms of aggression have been observed in emerging adults (Czar, Dahlen, Bullock, & Nicholson, 2011; Schmeelk, Sylvers, & Lilienfeld, 2008). In addition, although psychopathy is associated with both proactive and reactive aggression, it is proactive aggression that appears to distinguish psychopathic from non-psychopathic individuals (Glenn & Raine, 2009). Studies using emerging adult samples have shown mixed findings, but still provide evidence that the personality factor of psychopathy is associated with both proactive and reactive aggression, whereas the lifestyle factor of psychopathy is more strongly associated with merely reactive aggression (Falkenbach, Poythress, & Creevy, 2008; Ostrov & Houston, 2008; Reidy, Zeichner, Miller, & Martinez, 2007). In addition, previous literature has demonstrated a unique effect of the personality factor on morally relevant decisions and behaviors in young and middle-aged adults (Coyne & Thomas, 2008; Pletti, Lotto, Buodo, & Sarlo, 2017; Seara-Cardoso, Neumann, Roiser, McCrory, & Viding, 2012). We thus chose to solely focus on the personality factor of psychopathy, as the emotional desensitization inherent in the personality factor is a stable internal characteristic that may more directly be related to latent cognitive structures (e.g., worldviews) than a pattern of erratic behavior. Given the strong links between psychopathy and aggression, both psychopathy and aggression subtypes were treated as independent predictors in our analyses. We expected an inverse relation between psychopathy and moral judgments of aggressive transgressions.

5 | GENDER

Across most developmental periods, physical aggression tends to be more commonly displayed by boys and men, and relational aggression tends to be the most common form of aggression displayed by girls and women (e.g., Murray-Close, Ostrov, & Crick, 2007; Ostrov & Keating, 2004). In emerging adulthood, however, gender differences in the display of physical and relational aggression are variable, (e.g., Bailey & Ostrov, 2008; Basow et al., 2007; Czar et al., 2011; cf. Schmeelk et al., 2008; Storch, Bagner, Geffken, & Baumeister, 2004). Given mixed findings, it is important to control for the effect of gender when studying aggressive behavior. Moreover, there are observed gender differences in how physical and relational forms of aggression are evaluated. Murray-Close et al. (2006) found that girls judged both physical and relational aggression as more wrong than did boys. Similarly, Basow et al. (2007) found that women viewed scenarios of both physical and relational aggression as less acceptable than men. Based upon this previous literature, we expected to find a main effect of gender in the current study, such that women would judge all subtypes of aggressive behavior as more wrong than men.

6 | EMERGING ADULTHOOD

Emerging adulthood (i.e., arguably ages 18–25-years-old) constitutes a developmentally distinct period between adolescence and adulthood that is marked by identity exploration in the areas of work, romantic relationships, and worldviews, as well as greater risk-taking behavior (Arnett, 1994). It is important to study our constructs of interest in emerging adulthood based upon the particular developmental issues inherent in this developmental period. Both physical and relational forms of aggression have shown unique associations with various forms of psychopathology during this developmental period (Ostrov & Houston, 2008; Schmeelk et al., 2008). Of these various forms of psychopathology, the construct of psychopathy appears to be an especially risky personality factor, as it has predicted heavy episodic drinking and alcohol problems (Sylvers, Landfield, & Lilienfeld, 2011) as well as sexually coercive behavior (Muñoz, Khan, & Cordwell, 2011) in emerging adults. As a residential university context provides greater opportunity for alcohol use and the exploration of sexual relationships, individuals high on psychopathy may be more likely to engage in problematic behaviors that have negative consequences.

Moral development also takes place during emerging adulthood, particularly in a residential university context. Studies showing that factors such as extracurricular activities, and type of courses taken are related to moral reasoning (Lies, Bock, Brandenberger, & Trozzolo, 2012; Mayhew & King, 2008) suggest that moral reasoning develops in accordance with the college experience and is susceptible to changes based upon ecological context. As the peer environment is another critical component of the college experience, it is important to understand the impact of social behaviors on worldviews. Based on the intense and frequent peer interactions that commonly occur before the achievement of full independence, we confined our sample to individuals ages 18–22.

7 | PEERS

Given that we asked participants to report on behaviors that are often considered to be socially unacceptable (e.g., hitting), we were concerned that participants would be likely to under-report such behaviors. In addition, sole reliance on self-report measures renders

concern with shared method variance. To address validity concerns, we recruited a subsample of peers to report on target participants' levels of aggression. Previous research has supported the utility of peer nominations and peer ratings of aggression in multiple developmental periods (Clemans, Musci, Leoutsakos, & Ialongo, 2014; Mehari, Waasdorp, & Leff, 2019; Werner & Crick, 1999). In the current study, peer-reports were used to support the interpretation of our findings.

8 | HYPOTHESES

We assessed the relations between two-dimensional subtypes of aggressive behavior and moral judgments of those subtypes. For Hypothesis 1, we expected that subtypes of aggressive behavior would be most strongly associated with moral judgments of the corresponding subtype (e.g., that proactive physical aggression would be negatively associated with moral judgments of proactive physical aggression but less strongly associated with moral judgments of the other three subtypes). Thus, we expected to find specificity between subtypes of aggressive behavior and judgments of subtypes of aggressive behavior. For Hypothesis 2, we examined the effect of psychopathic traits on moral judgments of aggressive subtypes. We expected that psychopathy would be negatively associated with moral judgments of all subtypes of aggression. For Hypothesis 3, we examined the effect of gender on moral judgments of subtypes of aggression. We expected that women would judge all subtypes of aggression as more wrong than men.

9 | METHOD

9.1 | Participants and procedure

Four hundred and fifty-two emerging adults were recruited for the present study. We eliminated 31 participants (6.9%) due to inconsistent responding or failing to meet the age requirement of 18–22 years. Our final sample thus included 421 emerging adults (215 women; 206 men). The mean age of participants was 19.52 years (SD = 1.07). The majority (52.5%) were first-year students, with sophomores (30.2%), juniors (12.1%), seniors (4%), and students of unknown or other status (1.2%) comprising the minority. Participants were ethnically diverse: 39.9% were White, 34.7% were Asian, 8.3% were African American, 5.7% were South Asian, 3.6% were Hispanic, 2.6% were multi-racial, and 5.2% were of other or unknown ethnic origin.

A random subsample of participants (n = 84) brought a peer who completed informant reports of social behavior and personality for validity purposes. Peers were required to be same-sex friends and not biological relatives of the target participants. There were 11 peer participants (13%) who were eliminated due to inconsistent responding, their corresponding target's inconsistent responding, failure to meet the age requirement, having been a previous participant, or having an invalid friendship with the target participant. Friendship validity was determined by analyzing the level of agreement between targets and peers on their responses on a measure of friendship. Based on an approach used in previous literature (Gros, Simms, & Antony, 2010), interquartile ranges for difference scores for duration and closeness were calculated, and dyads were found whose difference scores on duration fell at least three interquartile ranges above or below the median. Dyads that had discrepant scores for friendship duration were eliminated if one member of the dyad reported that he or she had been friends with the other person for a period of time of less than 2 years. Thirteen dyads did not complete the measure of friendship and thus had no validity score, however were retained in the data set to prevent loss of statistical power. Our final subsample of peers included 73 emerging adults (46 women; 27 men). The mean age of peer participants was 19.52 years (SD = 1.18). The majority (61.6%) were first-year students, with sophomores (28.8%), juniors (4.1%), and seniors (5.5%) comprising the minority. Peer participants were similarly ethnically diverse.

The local Institutional Review Board approved the current study. As such, all procedures performed were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Participants signed up for the study via a website. A web-based random number generator was used to determine whether or not volunteers had to bring a peer to their session. An email response informed volunteers of their experimental condition. Laboratory sessions were run and supervised by the principal investigator, graduate assistant or undergraduate research assistant. Participants completed the study individually but in a small group format. They provided written consent and then each filled out a packet of questionnaires independently. Targets and peers completed their questionnaires in separate rooms. On average, completion of questionnaires lasted 40 min for targets and 30 min for peers. Following completion of questionnaires, participants were debriefed. Target participants and peers who were enrolled in Psychology 101 were awarded laboratory credit. Peers who were not enrolled in Psychology 101 were compensated with two small gift cards.

9.2 | Self-report measures

9.2.1 | Demographic information

Participants provided information on gender, age, ethnicity, and class year.

9.2.2 | Aggression

Participants completed the Self-Report of Aggression and Social Behavior Measure (SRASBM), which was first published in Linder, Crick, and Collins (2002). This 39-item measure includes six physical aggression items, three of which tap proactive physical aggression (e.g., "I try to get my own way by physically intimidating others") and three of which assess reactive physical aggression (e.g., "When someone has angered or

provoked me in some way, I have reacted by hitting that person"). Of the 11 relational aggression items, five measure proactive relational aggression (e.g., "I have threatened to share private information about my friends with other people to get them to comply with my wishes") and six assess reactive relational aggression (e.g., "When someone hurts my feelings, I intentionally ignore them"). Other items related to victimization, exclusivity and prosocial behavior were not used in the present study. The response scale ranges from 1 ("Not at all true") to 7 ("Very true"). The construct and criterion validity of this measure has been supported in two studies (Bailey & Ostrov, 2008; Murray-Close, Ostrov, Nelson, Crick, & Coccaro, 2010). Scales for aggression subtypes in this measure have demonstrated moderate internal consistency (Cronbach's $\alpha > .67$; Bailey & Ostrov, 2008; Ostrov & Houston, 2008). Internal consistency was moderate for proactive physical aggression ($\alpha = .66$) but was acceptable for the other three subtypes (α's = .72 to .79).

9.2.3 | Psychopathy

The short version of the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) is a 56-item self-report questionnaire which measures eight core personality characteristics of psychopathy, seven of which load onto two factors: (1) fearless dominance (28 items) and (2) impulsive antisociality (28 items), which was not used in the present study. Agreement with each statement is rated along a 4-point scale (1 = False, 2 = Mostly False, 3 = Mostly True, 4 = True). Several studies of emerging adulthood have supported the reliability and validity of this entire measure and its factors (e.g., Ostrov & Houston, 2008; Smith, Edens, & Vaughn, 2011). In the present study, internal consistency was acceptable for fearless dominance ($\alpha = .81$).

9.2.4 | Moral judgments

The Judgments of Aggression Scale was developed for the purposes of the current study. This measure was adapted from the Normative Beliefs of Subtypes of Aggression Scale (NBSAS; Bailey & Ostrov, 2008). The NBSAS was based on Huesmann and Guerra's (1997) measure of normative beliefs about aggression and adapted for use in emerging adulthood. The NBSAS asks individuals to rate the degree of acceptability of various instances of aggressive behavior. Specifically, participants evaluate the behavior (e.g., physical aggression, relational aggression, prosocial behavior) of a protagonist (i.e., John/Julie) for a particular reason (e.g., proactive or reactive). The gender of the protagonist is matched to the gender of the participant in order to reduce the possibility of gender biases in the perceptions of acceptable aggressive behavior (Ostrov, Crick, & Keating, 2005). Given prior concerns with reliability (Bailey & Ostrov, 2008), new items were added to the measure. In addition, the wording of the response scale was changed such that the new measure asks participants to rate the degree of wrongness of aggressive behavior. Participants rate each behavior on a 4-point rating scale (1 = "not wrong" to 4 = "very wrong"). This 20-item measure contains five subscales, with four items pertaining to each subtype (e.g., "John punches a peer to maintain his social status" for proactive physical aggression). There are four items that pertain to prosocial behavior to minimize negative response biases. Internal consistency was acceptable for moral judgments of proactive physical, reactive physical and proactive relational aggression (α's = .73 to .82). For moral judgments of reactive relational aggression, internal consistency increased after modification following a pilot study but still fell slightly below acceptable levels ($\alpha = .68$).

9.2.5 | Friendship closeness

The Friendship Closeness Scale (FCS) was also developed for the current study and adapted from a previous measure. Six items from the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985) were selected to create an index of the closeness of the relationship between a target and a peer (e.g., "How much free time do you spend with your friend?"). The response scale ranges from 1 to 5, with a score of 1 indicating low closeness (e.g., "None") and 5 indicating high closeness (e.g., "Almost all"). The NRI was first written for early adolescents so the language of the selected items was modified to be developmentally appropriate for emerging adults. The questions were also changed such that the items did not pertain to an exclusive best friendship, and one item was added to the measure to assess the duration of the relationship. Internal consistency of items pertaining to closeness was acceptable ($\alpha = .91$).

9.3 | Peer-report measures

9.3.1 | Demographic information

Peer participants provided information on their own gender, age, ethnicity, and class year.

9.3.2 | Aggression

Items from the SRASBM were reworded to create a peer-report measure of aggression (e.g., "I try to get my own way by physically intimidating others" was changed to "He tries to get his own way by physically intimidating others"). A male version and a female version were created so that the gender in the measure would match the gender of the target participant. Prosocial items were retained and reworded. Internal consistency was acceptable for peer-reports of all subtypes of aggression (α's = .79 to .89). A peer version of the short form of the PPI was also created but not used in the present study due to weak reliability.

9.3.3 | Friendship closeness

Peer participants were administered the same measure of friendship closeness as target participants. Internal consistency of peer-reported friendship closeness was acceptable ($\alpha = .88$).

TABLE 1 Descriptive statistics and correlations between key study variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	M_{SR}	SD_{SR}	$Range_{SR}$
1. Proactive PA	**.29**									5.47	2.77	3.00–14.05
2. Reactive PA	.62	**.43**								6.14	3.53	3.00–16.98
3. Proactive RA	.58	.39	**-.03**							10.18	4.45	5.00–23.98
4. Reactive RA	.41	.34	.63	**.10**						14.90	5.61	6.00–32.11
5. FD	.13	.18	−.05	−.13	X					54.40	9.68	28.00–82.00
6. MJ Proactive PA	−.43	−.41	−.35	−.30	−.11	X				14.81	1.80	8.95–16.00
7. MJ Reactive PA	−.17	−.38	−.01	−.13	−.13	.45	X			12.85	3.02	4.00–17.00
8. MJ Proactive PA	−.30	−.21	−.40	−.36	−.06	.56	.27	X		13.08	2.40	5.84–16.00
9. MJ Reactive PA	−.13	−.16	−.22	−.33	−.00	.31	.44	.54	X	10.61	2.61	5.00–16.00
M_{PR}	5.18	5.39	9.74	13.36								
SD_{PR}	3.09	3.93	5.07	7.03								
$Range_{PR}$	3.00–15.60	3.00–17.76	5.00–25.95	6.00–34.53								

Note: Correlations between self-reported variables above .10 and at or below −.10 are significant at a level of $p < .05$; correlations between self-reported and peer-reported variables at or above .25 are significant at a level of $p < .05$; correlations in bold are between self-reports and peer-reports of the same construct; moral judgments variables are scaled such that higher ratings indicate stronger beliefs of wrongness.
Abbreviations: FD, fearless dominance; MJ, moral judgments; PA, physical aggression; PR, peer-reported; RA, relational aggression; SR, self-reported.

10 | RESULTS

10.1 | Descriptive statistics

Means, standard deviations, and ranges were calculated for all key study variables (see Table 1). Scores that were greater than three standard deviations above the mean were considered to be outliers, and as such were reduced to a value equal to three standard deviations above the mean. Similarly, scores that were lower than three standard deviations below the mean were increased to a value equal to three standard deviations below the mean (see Kline, 2016). There were 15 participants who had missing data on several items and because the proportion of missing values was low in the data set, mean imputation was used to correct for this missing data (Tabachnick & Fidell, 2007). No variables showed evidence of skew (values > 3 or <−3) or kurtosis (values > 8) and thus transformations were not necessary (Kline, 2016).

10.2 | Preliminary analyses

Two 2 (form: physical or relational) × 2 (function: proactive or reactive) repeated-measures analysis of variances (ANOVAs) were conducted to determine whether form and function influenced the average levels of moral judgments of aggression subtypes and the average levels of aggression subtypes. When moral judgments was the dependent variable, there was a main effect of form, such that participants rated physical aggression as more wrong than relational aggression [$F(1, 420) = 367.19$, $p < .001$, $\eta^2_p = .47$], and a main effect of function, such that participants rated proactive aggression as more wrong than reactive aggression [$F(1, 420) = 451.71$, $p < .001$, $\eta^2_p = .52$]. There was a significant interaction between form and function [$F(1, 420) = 12.80$, $p < .001$, $\eta^2_p = .03$]. Follow-up within-subjects *t*-tests showed that participants rated proactive physical aggression as significantly more wrong than proactive relational aggression [$t(420) = 17.34$, $p < .001$, $d = .84$] and also rated reactive physical aggression as significantly more wrong than reactive relational aggression [$t(420) = 15.25$, $p < .001$, $d = .74$]. Results of the 2 (form: physical or relational) × 2 (function: proactive or reactive) repeated-measures ANOVA with self-reported average subtypes of aggression as the dependent variable paralleled the results for moral judgments. A main effect of form showed that participants reported significantly lower levels of physical aggression than relational aggression [$F(1, 420) = 57.99$, $p < .001$, $\eta^2_p = .12$], and a main effect of function showed that participants reported significantly lower levels of proactive aggression than reactive aggression, [$F(1, 420) = 111.79$, $p < .001$, $\eta^2_p = .21$]. There was a significant interaction between form and function [$F(1, 420) = 15.80$, $p < .001$, $\eta^2_p = .04$]. Follow-up within-subjects *t*-tests showed that participants reported significantly lower levels of proactive physical aggression than proactive relational aggression [$t(420) = -5.29$ $p < .001$, $d = -.26$], and also reported significantly lower levels of reactive physical aggression than reactive relational aggression [$t(420) = -7.29$, $p < .001$, $d = -.36$].

10.3 | Bivariate correlations

Correlations were calculated among key study variables. We sought to examine correlations between parallel forms of aggression as well as parallel functions of aggression. Regarding form, the correlation between proactive physical aggression and reactive physical

aggression was moderate ($r = .62$, $p < .001$), and the correlation between proactive relational aggression and reactive relational aggression was also moderate ($r = .63$, $p < .001$). Regarding function, the correlation between proactive physical aggression and proactive relational aggression was moderate ($r = .58$, $p < .001$), and the correlation between reactive physical aggression and reactive relational aggression was moderate but relatively weaker and presumably influenced by measurement error associated with the hostility and impulsivity inherent in these behaviors ($r = .34$, $p < .001$). The correlations between opposite subtypes of aggression were also moderate (r's = .41 and .39; p's < .001).

10.3.1 | Correlations between aggression subtypes and psychopathy

Fearless dominance was significantly and positively associated with both proactive physical aggression ($r = .13$, $p = .009$) and reactive physical aggression ($r = .18$, $p < .001$). Fearless dominance was not significantly associated with proactive relational aggression, but was significantly and negatively associated with reactive relational aggression ($r = -.13$, $p = .009$).

10.3.2 | Correlations between subtypes of aggression and moral judgments

Moral judgments of each subtype of aggression were significantly and negatively correlated with each subtype of aggression (r's = −.13 to − .43, p's < .05), except that moral judgments of reactive physical aggression were not associated with proactive relational aggression ($r = -.007$, $p = .894$). The four constructs that measured moral judgments of aggression subtypes were also significantly correlated with each other (r's = .27 to .56, p's < .001; see Table 1).

10.4 | Validity

A series of independent-samples t-tests were conducted on all key study variables to determine whether participants who brought a peer significantly differed from those who did not. First, there was a higher proportion of women in the group that brought peers ($M = .64$, $SD = .48$) than those that participated as single targets ($M = .48$, $SD = .50$), [$t(107.08) = -2.58$, $p = .011$, $d = .33$]. Second, individuals who brought peers had lower levels of proactive physical aggression ($M = 4.93$, $SD = 2.42$) than did individuals who did not bring peers ($M = 5.58$, $SD = 2.83$), [$t(117.34) = 2.02$, $p = .045$, $d = -.29$]. Third, individuals who brought peers had stronger moral judgments of reactive physical aggression ($M = 13.67$, $SD = 2.41$) than those who did not bring peers ($M = 12.67$, $SD = 3.11$), [$t(127.69) = -3.05$, $p = .003$, $d = .36$]. Levene's test for equality of variances was significant for gender, proactive physical aggression, and moral judgments of reactive physical aggression.

Means, standard deviations, and ranges were calculated for all peer-reported variables (see Table 1). Outliers were adjusted in the same way as they were for self-reported data. No variables showed evidence of skew (values > 3 or <−3) or kurtosis (values > 8). A set of within-subjects t-tests revealed no significant differences between self-reports and peer-reports of aggression subtypes. Bivariate correlations were calculated between self-reported and peer-reported variables (see Table 1). Self- and peer-reports of proactive physical aggression and reactive physical aggression were correlated, however, self- and peer-reports of both types of relational aggression were not.

10.5 | Hierarchical multiple regression analyses

A series of four multiple regression analyses were run to test hypotheses (see Table 2). Predictor variables were mean-centered before analysis to reduce concerns with multicollinearity (Aiken & West, 1991). Gender was dummy-coded (men = 0 and women = 1). In

TABLE 2 Unique associations between subtypes of aggression, fearless dominance, and moral judgments of aggression

	MJ proactive PA			MJ reactive PA			MJ proactive RA			MJ reactive RA		
	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2
Step 1												
Gender	.20***	.04		.25***	.06		.13**	.02		.03	.001	
Step 2			.21			.14			.18			.11
Proactive PA	**−.21****			.02			−.08			.08		
Reactive PA	−.18**			**−.39*****			.03			−.08		
Proactive RA	−.09			.23***			**−.26*****			−.05		
Reactive RA	−.10			−.14*			−.18**			**−.31*****		
FD	−.04			−.04			−.07			−.05		

Note: Gender (0 = male, 1 = female); coefficients in bold are between a subtype of aggression and its parallel moral judgment; moral judgments variables are scaled such that higher ratings indicate stronger beliefs of wrongness.

Abbreviations: FD, fearless dominance; MJ, moral judgments; PA, physical aggression; RA, relational aggression.

*$p < .05$.

**$p < .01$.

***$p < .001$.

these models, the same predictor variables were entered at each step. At Step 1, gender was entered as a covariate. At Step 2, proactive physical, reactive physical, proactive relational, reactive relational aggression, and fearless dominance were entered as predictor variables. In Model 1, the outcome variable was moral judgments of proactive physical aggression. In Model 2, the outcome variable was moral judgments of reactive physical aggression. In Model 3, the outcome variable was moral judgments of proactive relational aggression. In Model 4, the outcome variable was moral judgments of reactive relational aggression. As such, moral judgments of each subtype were tested separately in independent analyses, reducing concerns with the influence of measurement error in our predictor variables. In Models 1–3, the overall models were significant at each step; in model 4, only the second step was significant. Consistent with this pattern, also in Models 1–3, gender was uniquely and positively associated with the outcome variables at Step 1, showing that women were more likely to have stronger moral judgments than men. In all models, there were significant, negative, and unique associations between a particular subtype of aggression and its parallel type of moral judgment. In addition, these associations between particular subtypes and their parallel type of moral judgments were the greatest in magnitude. Fearless dominance was not significantly associated with the outcome variable in any of the four models. A series of post-hoc power analyses revealed that we were adequately powered (0.99-1.00) for all four regression analyses.

11 | DISCUSSION

11.1 | Preliminary analyses and main effects of subtypes of aggression

Our pattern of findings is in keeping with past literature that demonstrates unique associations between certain aggressive behaviors and cognitions that are specifically related to those behaviors (Bailey & Ostrov, 2008; Goldstein & Tisak, 2010; Werner & Nixon, 2005; cf. Crick, 1995). In our preliminary analyses, we observed an inverse pattern regarding frequencies of aggression subtypes and the severity of moral judgments of these subtypes, such that less frequent subtypes of aggression were judged more harshly. This finding is consistent with previous literature in which adults' endorse stronger reactions to children's acts of physical or proactive aggression than to relational or reactive aggression (Bayram Özdemir & Cheah, 2017; Swit, McMaugh, & Warburton, 2018; Werner, Senich, & Przepyszny, 2006). Furthermore, for our first hypothesis, we expected to find specificity between subtypes of aggressive behavior and judgments of subtypes of aggressive behavior. Strong support for this hypothesis was found, such that moral judgments of subtypes of aggression showed the strongest associations with the corresponding subtypes of aggression, while controlling for other subtypes of aggression. This suggests that moral judgments of aggressive behavior are conceptually unique and distinctly related to the specific aggressive behaviors exhibited by young adults. Importantly, both sets of findings provide support for analyzing moral judgments of aggression both in terms of form and function, and supply empirical evidence for the long-held assertion that proactive aggression is a more serious behavior than reactive aggression.

11.2 | Main effects of psychopathy

We did not find robust main effects of factors of psychopathy on moral judgments of subtypes of aggression, contrary to our second hypothesis. We had expected that psychopathy would lead to more morally blunted responses on our outcome variables. However, in contrast to our second hypothesis, psychopathy (as measured by the fearless dominance subscale) was not associated with moral judgments of any of the aggression subtypes. Zero-order correlations offered preliminary support, but these relations were attenuated in multiple regression analyses. Somewhat similarly, Aharoni, Sinnot-Armstong, and Kiehl (2012, 2014) found that psychopathy was not associated with an impaired ability to make distinctions between moral and conventional violations in samples of incarcerated individuals. Studies using other moral reasoning measures, however, suggest a different pattern of effects. Studies of emerging adults have indicated that affective psychopathy is associated with utilitarian responses but not acceptability ratings in response to moral scenarios (Pletti et al., 2017; Tassy, Deruelle, Mancini, Leistedt, & Wicker, 2013). Another study of college students showed that aggression partially mediated the relation between psychopathic traits and utilitarian moral reasoning (Balash & Falkenbach, 2018). Altogether, these findings appear to vary based on sample and question type and suggest the existence of a complex array of relations worthy of future study.

Furthermore, other literature suggests that psychopathy may be related to enhanced moral competence. Borg et al. (2013) observed an interaction between the two factors of psychopathy, such that the affective factor of psychopathy appeared to counteract the moral impairment seen in individuals with a deviant lifestyle. In children and adolescents, callous-unemotional traits are unrelated to perspective-taking ability but are related to weaker emotional empathy (Jones, Happé, Gilbert, Burnett, & Viding, 2010; Pardini & Byrd, 2012). If individuals with psychopathic traits correctly understand the thoughts of others (see Dolan & Fullam, 2010), they may know how most other individuals would think about moral transgressions and thus how they "should" respond. This raises questions about the potential for socially desirable responding. To obtain an accurate picture of the links among psychopathy, moral judgments, and immoral behavior, then attention to cognitive abilities, questionnaire style, and reporting biases is necessary in future literature.

11.3 | Main effects of gender

We found a main effect of gender on moral judgments of three out of the four aggression subtypes, thus garnering support for our third

hypothesis. Women were more likely than men to judge proactive physical aggression, reactive physical aggression, and proactive relational aggression as more wrong. There were no gender differences, however, in judgments of reactive relational aggression. Murray-Close et al. (2006) and Goldstein and Tisak (2010) showed that girls judged acts of physical and relational aggression as more wrong than boys, but did not assess function in their studies. Thus, when taking function into account, women may tend to be more judgmental of proactive relational aggression than reactive relational aggression. Proactive relational aggression may be seen as counterproductive to the creation of close friendships that girls and young women value, whereas reactive relational aggression may be viewed as a gender-normative way to express hurt and anger (see Crick & Zahn-Waxler, 2003). In addition, the lack of gender difference in reactive relational aggression could be attributed to developmental change, as previous literature was conducted in younger samples (i.e., Goldstein & Tisak, 2010; Murray-Close et al., 2006). Alternatively, the internal consistency of the subscale pertaining to moral judgments of reactive relational aggression did not reach acceptable levels, and thus weak reliability could have attenuated any substantive gender differences. Overall, our results contribute to previous literature by documenting gender effects in emerging adulthood that are similar to those found in childhood and adolescence.

11.4 | Peers

We sought to improve upon previous literature by obtaining peer-reports from a subsample of participants for validity purposes. Data from our subsample of peers did not support the validity of our target-reports as well as expected, but our nonsignificant correlations do not entirely invalidate our self-report data, as the observability of some of the behaviors and traits in question may have led to weak self-peer correlations. According to Paunonen and O'Neill (2010), the quality of peer ratings is influenced by the degree to which the behaviors under consideration are observable, but the quality of self-reports is not. We found significant self-peer correlations for physical aggression but not for relational aggression, which becomes less observable in later stages of development (see Crick, Ostrov, & Kawabata, 2007). Similarly, previous literature with adolescents has demonstrated significant self-peer correlations for physical but not relational aggression (Cillessen, Jiang, West, & Laszkowski, 2005). In addition, if targets honestly reported on their levels of physical aggression, it is ostensible that they also honestly reported on their levels of relational aggression.

12 | LIMITATIONS AND CONCLUSION

It is important to acknowledge the limitations of the current study. First, our measures showed variable reliability, and the use of self-report measures for our regression analyses leads to concerns with shared method variance. Second, rates of physical aggression were relatively low, potentially reducing the ability to find meaningful associations with particular outcomes. Third, despite randomly assigning a subset of targets to bring a peer, there were significant differences between conditions. Given these differences, the degree of validity of target-reports and the representativeness of our self-peer correlations remains unknown, and the subsample of peers may not generalize to the larger college population. Fourth, our emerging adult sample was obtained conveniently and recruited from an American university, and thus our results may not generalize to emerging adults who do not attend college or who belong to different cultures, as well other age groups.

In summary, this was the first known study to examine forms and functions of aggression from a moral perspective. Subtypes of aggression were judged differentially from a moral basis, and judgments of these subtypes of aggression were strongly associated with individuals' corresponding aggressive behavior. The influence of psychopathy on moral judgments appears difficult to detect with self-report measures due to potential reporting biases. Given the malleability of moral reasoning and the risks for psychopathology that occur during emerging adulthood, we recommend future research to clarify the psychological and social factors that influence aggressive behavior and moral reasoning during this developmental period. We also encourage scholars to consider the relevance of our findings to other disciplines, including law and criminal justice.

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AUTHOR CONTRIBUTIONS

E. J. H. conducted literature review, conceived of the study and its hypotheses, ran a portion of participants, ran statistical analyses, and drafted the full manuscript. J. M. O. aided in conceptualization, supervised the implementation of the dissertation project as the Chair of the dissertation committee, suggested certain methods/instruments and references, advised the process of statistical analysis and interpretation, and reviewed/edited all drafts of the manuscript.

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