

2009

# Moral Emotion Expectancies and Moral Behavior in Adolescence

Megan E. Johnston  
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*Your file* *Votre référence*  
ISBN: 978-0-494-54232-3  
*Our file* *Notre référence*  
ISBN: 978-0-494-54232-3

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Running head: MORAL EMOTION EXPECTANCIES

Moral Emotion Expectancies and Moral Behavior in Adolescence

by

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Honours Bachelor of Arts, University of Western Ontario, 2007

THESIS

Submitted to the Department of Psychology

in partial fulfillment of the requirements for

Master of Arts

Wilfrid Laurier University

2009

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## Abstract

In the present research we extended previous studies examining moral emotion expectancies in childhood to investigate the relationship between moral emotion expectancies and moral behavior in adolescence. A secondary goal was to explore the relationships among moral emotion expectancies, the moral self, and moral action. Two hundred and thirty-five adolescents in grades 7, 9, 11, and first year university completed a structured interview assessing moral emotion expectancies in various situations in which a moral norm is either regarded or disregarded. Participants distributed up to 10 plastic chips on nine emotional expressions to indicate how they expected to feel in each moral situation and also provided an overall emotion rating for each scenario that averaged across all the specific emotions they anticipated. A written questionnaire measured self-reported prosocial and antisocial behavior by asking participants how often they engaged in a list of activities in the past year. The questionnaire also included a measure of self-centrality of moral values to the individuals' identity. Self-evaluative moral emotion expectancies were shown to have associations with antisocial and prosocial behavior, but it was the overall emotion ratings that were most closely associated with behavior. Thus, moral emotions do not appear to stand out against other, more basic emotions when predicting moral action. These overall ratings were associated with self-reported levels of antisocial behavior while moral self scores were better predictors of self-reported prosocial behavior. Additionally, the relationship between emotion expectancies and antisocial behavior was also found to be moderated by age, with emotion expectancies becoming more predictive of self-reported antisocial action with age.

## Acknowledgements

Firstly, I would like to thank my Master's thesis advisor, Dr. Tobias Krettenauer, for the direction and guidance he has provided throughout this process. I am very grateful for the kind help and support. The knowledge and expertise he has imparted over the past two years is greatly appreciated.

I would also like to thank my committee members, Dr. Michael Pratt and Dr. Eileen Wood, for their contributions to my M.A. project. Their criticism, suggestions, questions, and encouragement have allowed me to sharpen and strengthen this research.

Many thanks to all the interviewers who helped out with this project. I would especially like to acknowledge Lauren Monroe and Samantha Campbell for their dedication to the project and many hours of assistance. Additionally, I would like to thank my sister, Martha, for her unfailing love and support.

For financial aid, I would like to acknowledge the Social Sciences and Humanities Research Council and the Ontario Ministry of Training Colleges and Universities. The scholarships I received to fund my M.A. research have provided me with the resources and time to focus on my studies and produce the best work possible.

Finally, I would like to thank everyone at Wilfrid Laurier University who has helped to make my time in the Social and Developmental Psychology program an unforgettable experience. I feel privileged to have worked with all of the wonderful faculty members and graduate students who are a part of this program.

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## Moral Emotion Expectancies and Moral Behavior in Adolescence

Every day individuals are presented with opportunities to transgress the moral standards or norms set out by society. Similarly, people are also frequently faced with situations in which they can uphold their own moral ideals, or those of society, and act in an altruistic fashion. In each type of situation, individuals must make a decision about whether they wish to do 'the right thing' or not. What factors influence the actions chosen by individuals when presented with such a moral conflict? Clearly, the action of transgressing a moral rule, or in contrast, the action of abiding by a moral rule when presented with an opportunity to transgress, results from more than a simple decision of whether a certain behavior is right or wrong. Children as young as 4 are able to judge the wrongness of actions such as hitting others and they also base these judgments on the principles of harm and fairness rather than the rules set out by authority figures (Wiersma & Laupa, 2000). Despite the fact these children know that transgressing a rule is wrong, they often will attribute positive emotions to transgressors (e.g. Arsenio, Gold, & Adams, 2006).

Thus, factors other than the inherent right or wrongness of an action, such as the emotions evoked by that action for example, may influence decisions about moral behavior. With this research we set out to study the association that exists between the moral emotions that individuals anticipate following moral or immoral actions and the levels of moral behavior (both prosocial and antisocial) that people report. The rationale for this research begins with the idea that emotions play a role in the decision-making process. Previous findings supporting this idea are presented before the discussion moves on to focus specifically on the self-conscious moral emotions. A significant body of

literature exists to link moral emotions and moral behavior, at least in early and middle childhood, and the present research was aimed at extending this to adolescence.

Following the demonstration of a link between moral emotions and moral action, a separate line of research linking the self-relevance of moral characteristics and moral behavior will be discussed. The importance of moral characteristics to the self represents another factor influencing the moral decision-making process, independent from emotional expectations. Disentangling the relationships among moral emotion expectancies, moral trait self-relevance, and moral action was one goal of the current research. After presenting the literature supporting each of these relationships, the goals and hypotheses of the present study are discussed in greater detail before continuing on to the methodology and results of this research. The primary purpose of undertaking this study was to explore the association between moral emotion expectancies and moral behavior in adolescence.

#### *Moral Reasoning and Moral Action*

Early research on moral development focused on the role of moral judgment, exemplified by Piaget's (1932) cognitive-developmental approach to the growth of moral thought. This framework was extended by Kohlberg (1963) to create an influential model of moral reasoning. Kohlberg defined six qualitatively distinct stages of moral reasoning which he believed people progressed through in a stepwise fashion, with each successive stage representing a more sophisticated level of moral reasoning. Kohlberg suggested that moral reasoning should be related to moral action, and even argued that behavior could only be seen as moral if it was informed by moral judgment (Colby & Kohlberg, 1987). However, research aiming to demonstrate a relationship between Kohlberg's stages of

moral reasoning and behavioral outcomes has demonstrated only weak associations (e.g. Fodor, 1972; Ruma & Mosher, 1967; Schwartz, Feldman, Brown, & Heingartner, 1969). In general, research which has found a link between moral judgment and behavior has focused on individuals who demonstrate low levels of moral judgment and high levels of delinquent activity (e.g. Stams et al., 2006) while little empirical support exists for a relation between more sophisticated levels of moral judgment and high levels of moral or prosocial behavior (Kurtines & Greif, 1974). For example, Hart and Fegley (1995) found no differences in moral reasoning between a group of adolescents demonstrating unusual commitments to care for others and a group of control adolescents. Similar findings are reported by Colby and Damon (1992).

Therefore, while many studies have found relations between moral reasoning and measures of moral behavior which are statistically significant, these relations account for only a small portion of variance (Krebs & Denton, 2006). Even Kohlberg has stated that the association between moral judgment and moral behavior is not fully defined, acknowledging that moral judgment is necessary but not sufficient for moral action (Kohlberg & Hersh, 1977). Other variables such as motivation and emotion will play a role. Blasi (1999) argues that moral understanding alone can not fully explain moral action or moral motivation. He highlights the idea that emotion can produce action tendencies which motivate behavior. Over time, emotions become connected to those behaviors which tend to reduce feelings of discomfort and in this way acquire motivational force. Hence, the anticipation of negative emotional consequences (e.g. guilt) may motivate an individual to avoid certain behaviors; in the same way, the

anticipation of positive emotional consequences (e.g. pride) may motivate that person to engage in other behaviors.

Other researchers (e.g. Haidt, 2001) have similarly pointed out the fact that the relationship between moral reasoning and moral behavior is weak and have argued that emotions play a much greater role in determining behavior. Evidence for an association between emotions and moral behavior is presented in the following sections, beginning with research demonstrating the role of emotions in the decision making process (i.e. the decision to enact a certain behavior).

### *The Role of Emotions in Decision Making*

The “happy victimizer” expectancy mentioned previously, that wrongdoers will be happy after achieving a desired outcome through immoral actions, demonstrates that moral knowledge and moral emotions are quite uncoordinated in young children. Although children are able to experience moral emotions such as guilt and shame at 3-4 years of age, they do not expect to experience these emotions in moral situations until about 7-8 years of age (Eisenberg, 2000). By adulthood, however, there appears to be a much closer connection between moral knowledge and moral emotions (Haidt, 2001). The significance of this developmental achievement is that the emotions anticipated in social situations are likely to influence the behaviors that an individual chooses to enact. Indeed, recent research has demonstrated the importance of emotions in the decision-making process (e.g. Izard, Fine, Schultz, Mostow, Ackerman, & Youngstrom, 2001; Lemerise & Arsenio, 2000).

Lemerise and Arsenio (2000) provide a model of social information processing in which an individual’s database of social information includes both emotion memories

and emotion-related skills. While emotion memories provide information about previous emotional experiences, the emotion-related skills allow for the activation of emotions appropriate to a given situation and also allow for accurate interpretation of social cues. In this way, the ability to interpret and activate emotions will impact the decision-making process and the behavior that results. As such, individuals who differ in their emotional competencies will likely differ in the behaviors that result from these processes. Izard et al. (2001) similarly refer to *emotion knowledge*, or the ability to anticipate the emotional reaction of the self in a given situation based on social cues, and to accurately interpret emotion signals. It is argued that emotion knowledge facilitates appropriate social behavior, whether this entails prosocial behavior or the avoidance of rule transgression, as social cues are more likely to be interpreted in ways that activate the appropriate emotions.

This link between emotion knowledge and behavior resulting from the social decision-making process has been clearly established. Izard et al. (2001) demonstrated that emotion knowledge in preschool significantly predicts behavioral outcomes such as assertion and cooperation in third grade. Those children who were more skilled at recognizing and labeling emotional expressions at age 5 were more likely to display cooperative behaviors at age 9 and less likely to display negative behaviors such as hyperactivity. Additionally, girls tend to possess more emotion knowledge than boys and, similarly, engage in more prosocial behavior than boys (Schultz, Izard, & Ackerman, 2000).

In the moral domain specifically, awareness of moral emotions has been shown to relate to measures of moral behavior. Miller, Eisenberg, Fabes, and Shell (1996) found

that children's vicarious emotional responses, such as empathy, were positively associated with the child's level of moral reasoning and a measure of peer-directed helping. In this study, children's prosocial behavior was positively associated with self-reported negative emotions in response to distressed peers and negatively associated with self-reported positive emotions to the distressed children. In preschool, children who possess more emotion knowledge also show more prosocial behavior (Denham, McKinley, Couchoud, & Holt, 1990). Asendorpf and Nunner-Winkler (1992) found that children who were more skilled at attributing moral emotions to story characters were less likely to cheat than less skilled children when given the opportunity. This study showed that a group of 6- and 7-year-old children did not differ in their cognitive understanding of the validity of moral rules but there was a large amount of variance in the moral emotions attributed to wrongdoers, and these emotion attributions predicted the children's behavior when presented with real moral conflict situations.

Research has shown that both aggressive and nonaggressive children demonstrate moral knowledge, that is, they know what the "right" thing to do is, but this does not necessarily mean that the action will be performed (Arsenio & Lemerise, 2004). Haidt (2001) argues that the relationship between moral reasoning and moral behavior is weak and that emotions play a greater role in determining behavior. In accordance with this, Arsenio, Cooperman, and Lover (2000) demonstrated that higher levels of aggression-related happiness predicted the likelihood of children initiating aggression.

In fact, research has demonstrated that an individual's perception of the severity of moral transgression is inferred in part from his or her affective response to the transgression (Pham, 2007; Trafimow, Bromgard, Finlay, & Ketelaar, 2005). Indeed, the

emotional responses people experience may be the means through which moral dilemmas are evaluated (Haidt, 2001). This “social intuitionist” approach argues that emotion is a driving force in moral judgment. People respond to moral situations with an instinctive emotional response, and then moral reasoning is used to justify or explain this response. Neuroimaging studies have supported this perspective by demonstrating that moral dilemmas activate parts of the brain typically associated with emotions (Greene & Haidt, 2002). In one fMRI study, Greene, Sommerville, Nystrom, Darley and Cohen (2001) revealed that responses to moral dilemmas produced increased activity in areas of the brain associated with emotional processing, but this increased activity was not seen to responses to non-moral dilemmas. As such, emotions do appear to play a role in moral decision-making.

A second model of social decision-making also predicts this link between emotional competence and behavior by adding in the role of emotion expectancies, or the anticipated affective consequences of a behavior. Originally, Crick and Dodge (1994) asserted that decision making first involves attention, encoding, and interpretation of the situation. Possible responses are then generated by the individual and each response is evaluated based on the anticipated consequences of that action. Finally, the response which is expected to produce the most positive outcome is enacted. This model was expanded upon by Dodge and Price (1994) who believed that emotional processes make contributions to social decision making which are distinct from the contributions of cognitive processes. Specifically, emotions motivate behavior and cognition in ways that facilitate the enactment of adaptive, goal-directed responses. Dodge and Price (1994) argued that, in addition to situational cues, internal emotional cues must also be encoded

and interpreted. Moreover, an important part of the response evaluation process involves an individual's expectation of the emotional consequences that will result from different possible responses (Dodge & Price, 1994).

### *Moral Emotion Expectancies*

Tangney, Stuewig, and Mashek (2007) argue that moral emotions influence behavior in two ways: as consequential emotions following actual behavior and as anticipatory emotions as we evaluate behavioral alternatives. Thus, actual behavior is not required for moral emotions to have an effect on decision-making; rather, individuals can anticipate the likely emotional outcomes of certain behaviors, thus informing their decision to act. Based on the idea that expectations of emotional consequences will impact the behaviors that are enacted in a given situation, the present research was undertaken to examine the relationship between expectations of moral emotions and self-reported behavior in moral situations, such as when tempted to break a moral rule to obtain a desired object. Krettenauer, Malti, and Sokol (2008) report research demonstrating that self-attributed moral emotions have a much greater impact on negative behaviors (e.g. aggression) than other-attributed emotions. For example, Malti and Keller (in press) found that boys with high levels of self-attributed moral emotions displayed lower levels of externalizing behavior than boys with low levels of self-attributed moral emotions. For this reason, the current study focused on self-attributed moral emotions.

Haidt (2003) defines moral emotions as those "that are linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent" (p.276). The self-conscious moral emotions are those that result from reflection on one's

self and the evaluation of the self against a set of standards and values. Upon self-reflection, these emotions provide an immediate punishment or reinforcement of behavior (Tangney et al., 2007). The self-conscious emotions of guilt, shame, and embarrassment have all been shown to play a role in morality, and guilt and shame, specifically, are often viewed as fundamental to this process (Eisenberg, 2000). Recently, however, guilt has been recognized as more of a moral emotion than shame, as it is argued that shame arises from both moral and nonmoral situations, whereas guilt tends to result specifically in response to moral circumstances (Eisenberg, 2000). Additionally, the moral function of guilt in motivating moral behavior has received empirical support, whereas little to no evidence has been found for the moral function of shame (Tangney et al., 2007). Guilt is experienced when a person fails to meet some standard or goal and attributes this failure to the self (Hart & Matsuba, 2007).

Embarrassment is also viewed as playing a more minor role in morality, as compared to guilt, due to the less negative and less serious nature of the affect associated with embarrassment (Tangney et al., 2007). Typically, embarrassment is experienced when a person fails to meet a social convention (Hart & Matsuba, 2007). Guilt, shame, and embarrassment are emotions typically described as self-conscious, but pride and self-satisfaction are additional emotions which result from the processes of self-reflection and self-evaluation in response to moral behavior (Tangney et al., 2007). However, little research has examined these positive self-evaluative moral emotions in relation to moral behavior. Pride has most frequently been explored in response to achievements in scholastic, occupational, and athletic domains, but Tangney and colleagues (2007) argue that feelings of pride in response to fulfillment of morally relevant standards may be an

important motivator of future behavior. The emotion of pride is experienced in reaction to a behavior, resulting from the individual's own efforts, which brings the self closer to important goals and standards (Hart & Matsuba, 2007).

Far from simply representing post hoc reactions to one's behavior, the self-conscious moral emotions can be seen as providing motivational force to act in positive ways and to avoid acting in negative ways (Kroll & Egan, 2004). Experiencing these emotions provides salient feedback on our moral acceptability following behavioral responses and also in anticipation of a particular response. The anticipation of guilt and embarrassment as consequential to a given response can exert a strong influence on the moral behavior that is chosen (Tangney et al., 2007). For Tangney and colleagues (2007), these expectations are based on one's history, that is, the actual emotions that have been experienced in reaction to similar behaviors and events. Theorists from the social intuitionist perspective on moral functioning similarly argue that positive moral emotions represent units of prosocial motivation and serve to activate the procedural enactment of a behavior (Haidt & Joseph, 2004; Leffel, Fritz, & Stephens, 2008).

Experiencing moral emotions in reaction to moral situations is quite common by middle childhood and from this point on these emotions exert an influence on moral behavior (Tangney & Dearing, 2002). For example, individuals who are more prone to experience guilt tend to display lower levels of aggression than less guilt-prone individuals (Tangney et al., 2007). Additionally, it was found that children who were more prone to experience guilt in fifth grade were less likely to be arrested, less likely to abuse drugs, and more likely to practice safe sex in adolescence (Tangney & Dearing, 2002). Thus, it appears that an expectation of guilt may inhibit individuals from engaging

in negative behaviors. Similar research has shown that people will conform and behave in a conciliatory manner in order to avoid embarrassment, which may include adherence to moral standards (Leary, Landel, & Patton, 1996). In the same way, the expectation of pride or self-satisfaction may motivate individuals to strive to meet moral standards or to inhibit the impulse to disregard moral standards (Tangney et al., 2007).

Research of this nature follows from the emotionalist approach to moral judgment, which views emotions as a primary cause of moral judgment and behavior, in contrast to more rationalist, cognitive approaches (Kagan, 1984). This perspective highlights the fact that moral situations inherently include emotional content, such as anticipated guilt, and the decision-making literature suggests that this content influences the decisions of individuals when they choose the option which will bring them the least amount of discomfort (e.g. guilt; Monin, Pizarro, & Beer, 2007). In line with this idea, research with children has demonstrated an association between moral emotion expectancies (the anticipation of moral emotions such as guilt and pride) and moral behavior, supporting the idea that it is the expectation of certain emotions that regulates behavior, rather than an actual emotional experience (e.g. Lake, Lane, & Harris, 1995). For example, Lake et al. (1995) found that children who were better able to anticipate the emotional outcomes of moral transgressions were more likely to resist a temptation to cheat, even when age was partialled out. A group of 5- to 6-year old children were read a story in which a character yields to a temptation and were asked how they thought the character would feel. Children who predicted more morally oriented emotions were more likely to avoid peeking during the experimenter's absence on a later guessing task.

The importance to social reasoning of understanding the emotional consequences of behavior is also demonstrated by research conducted by Arsenio (1988) with elementary school children. Children whose conceptions of the emotional consequences of certain sociomoral events differed greatly from the normative conceptions were less skilled at using information from emotional expressions to ascertain what type of sociomoral event had occurred than children whose conceptions of emotional consequences were closer to the norm. Arsenio (1988) uses this finding to suggest that children with atypical emotional expectations may believe that their behavior will result in different consequences than children with typical emotional expectations. A script-like connection between sociomoral events and emotional outcomes is also proposed, which individuals use to anticipate the emotional consequences of a certain response in a particular moral situation.

This connection between moral emotion expectancies and moral behavior has been most thoroughly explored in studies involving aggressive or violent youth. Lochman and Dodge (1994) found that, in contrast to non-aggressive boys, aggressive adolescents were more likely to indicate that they would feel happy in social situations which typically evoke negative emotions. Children were read a number of scenarios depicting emotion-inducing situations and were asked to indicate the emotions they expected to experience in those situations. In situations typically eliciting negative emotions, boys classified as aggressive by their teachers were more likely to indicate that they would feel happy (Lochman & Dodge, 1994). Arsenio, Gold, and Adams (2004) found similar results when comparing a group of aggressive adolescents to an adolescent comparison group. In terms of non-aggressive emotion expectancies, aggressive adolescents overall

expected to experience lower levels of emotion and were lower than the comparison group on each emotion category. For aggressive situations, the aggressive youth expected to feel happier than the comparison group. All emotion expectancy variables in the study were related to the behavioral outcomes of aggression and externalizing behavior (Arsenio et al., 2004). Finally, Slaby and Guerra (1988) compared violent youth with aggressive high school students and non-aggressive high school students and found a continuum of social-cognitive skills. The group of violent youth displayed the most social-cognitive deficiencies, followed by the aggressive students while non-aggressive students had the highest level of social-cognitive skills. The findings demonstrate that some aspects of social cognition differ quantitatively rather than qualitatively (i.e. between violent and non-violent youth). Therefore, quantitative differences may also exist in the ability to anticipate emotional outcomes, rather than a qualitative distinction between typical and atypical individuals.

These studies, comparing aggressive and non-aggressive youth, comprise the majority of research examining the relationship between moral emotion expectancies and moral behavior in adolescence. A few other studies have extended this research by comparing special populations to look at moral emotion expectancies in normal adolescents (e.g. Krettenauer & Eichler, 2006) but the present study was the first to explicitly study the relationship between self-evaluative moral emotion expectancies and the behavior of normal adolescents. The goal was to determine whether results obtained in these previous studies can be generalized to the adolescent population as a whole. Findings such as those of Slaby and Guerra (1988) and Lochman and Dodge (1994) suggest that individuals may differ quantitatively in their emotion attribution abilities,

and this individual difference may explain some variance in the moral behavior enacted by these individuals.

Additionally, while the connection between moral emotion expectancies and antisocial behavior has been previously studied, minimal attention has been given to the association between moral emotion expectancies and prosocial behavior, which we focused on in this study. Recently, Malti, Gummerum, and Buchmann (2007) reported that children's self-attributed moral emotions predicted mother-rated prosocial behavior. Additionally, Gummerum, Keller, Rust, and Hanoch (as cited in Krettenauer et al., 2008) found that the emotion attributions of 3- to 5-year-olds to victimizers predicted their prosocial behavior in a sharing situation. These studies with young children are the first demonstrations of a relationship between moral emotion expectancies and prosocial behavior. This study was first to examine the role of moral emotion expectancies in the prosocial behavior displayed by adolescents. Research has demonstrated that emotion knowledge is related to children's prosocial behavior (e.g. Izard et al., 2001) and it may be the case that moral emotion expectancies are similarly related to prosocial activities.

Perhaps in part because previous research has focused more on antisocial, as opposed to prosocial, behavior, there is a lack of literature on the role of positively valenced moral emotion expectancies in moral behavior. Previous studies have looked at the moral emotions of guilt, shame, and embarrassment, but fewer have examined the role of pride and satisfaction in prosocial and antisocial behavior. Research by Lagatutta (2005), however, has shown that as children get older they increasingly attribute positive or mixed emotions to characters who make willpower decisions and choose not to transgress rules. This study found that 4- and 5-year old children were significantly less

likely than 7-year-olds and adults to predict that people would feel good after abiding by the rules or would feel both negative and positive emotions in situations where their desires conflict with the rules.

Interestingly, Lagatutta (2005) also found that positive emotions were more likely to be attributed to rule-abiding characters by both children and adults when the character recalled the rules internally versus when the character was reminded of the rules externally. Rule source did not influence the emotion attributions of the children and adults following a rule transgression, however. If these findings similarly apply to emotion expectations for the self, it would suggest that positive emotion expectancies may be more predictive of behavior than negative emotion expectancies. Individuals may be more likely to expect positive emotions when their behavior results from internal principles than when based on external prescriptions; similarly, behavior is likely to be more consistent when it is based on internal values rather than external, situational factors. Expectations of negative emotions were not based on rule source, however, suggesting that these expectancies may be less predictive of behavior as they do not differ for internally versus externally regulated actions. This is one of the few studies to examine the expectation of positive emotions following rule abidance, and no research has examined how positive emotion expectancies influence moral behavior. This was one of our key goals in the present research. Investigating the role of positive emotion expectancies seems critical, as encouraging the realization in children and adolescents that following the rules can result in feelings of pride and satisfaction may be more conducive to socially appropriate behavior than attempting to socialize expectations of guilt and embarrassment after rule transgressions (Lagatutta, 2005).

*The Development of Moral Emotion Expectancies*

The connection between expectations of moral emotions and moral judgment appears to be a developmental achievement. In a study by Nunner-Winkler (1999), 4-to-8-year olds were all able to correctly evaluate an action as immoral; however, these children differed in their expectations of personal moral consequences of these actions. The majority of 4-year-olds expected to feel good after engaging in an immoral action and the expectation of negative emotions increased with age. Similarly, Lake et al. (1995) found that the ability to anticipate the emotional consequences of rule transgressions increased between the ages of 4 and 9; specifically, older children were more likely to expect a wrongdoer to feel happy after resisting the temptation to take a candy without permission and to feel bad after giving in to this temptation. Thus, it appears that the coordination of moral judgment and moral emotions increases with age.

The expectation of self-conscious moral emotions also develops with age. Murgatroyd and Robinson (1997) argue that an individual will experience one or more of three possible categories of emotions after they have committed an immoral act: (1) positive emotions based on achievement of desired outcomes (e.g. happiness), (2) negative emotions based on a fear of punishment, and (3) negative emotions based on empathy with a victim or possible disapproval from others (e.g. guilt). It is this third category which represents moral maturity and which does not appear until around the age of 8 (Nunner-Winkler & Sodian, 1988). When comparing the emotion attributions of 7- and 10-year-olds to a person who commits an immoral act, Murgatroyd and Robinson (1997) found that the 7-year-olds were more likely to attribute negative emotions to the wrongdoer when a disapproving adult witness was present than when a mistakenly

pleased adult was present. The attributions of negative emotions by the 10-year-olds did not differ in these two conditions, however, suggesting that when the third, most mature category of moral emotions (e.g. guilt) first emerges a disapproving witness may be necessary, but with increasing age the morality of a situation may be enough to evoke the anticipation of negative moral emotions.

Interestingly, the same study was performed with adult participants and it was shown that even when adults were allowed to list as many emotions as they wished when attributing emotions to wrongdoers, 30% of participants failed to list any moral emotions (Murgatroyd & Robinson, 1997). This finding suggests that even in adulthood, the anticipation of moral emotions following a transgression can not be taken for granted. Murgatroyd & Robinson (1993) similarly found that a group of undergraduate participants did not consistently indicate that wrongdoers would experience negative emotions after an immoral act. In fact, happiness can still occur for adults after moral rule transgressions in certain situations (Murgatroyd & Robinson, 1993). Thus, the expectation of moral emotions after immoral acts develops with age and even by adulthood may not be fully established. The expectation of moral emotions after prosocial moral behavior may show a similar developmental trend which was examined in our research.

While the expectation of moral emotions becomes more coordinated with moral judgment as an individual develops, it is unknown how long this coordination continues to improve. Research does exist to suggest that there is a certain amount of change in moral emotion expectancies that occurs across adolescence (Krettenauer & Eichler, 2006). Although few studies have examined moral emotion expectancies beyond

childhood, the correlation between these expectancies and adolescents' certainty in their moral judgments increases with age suggesting that the coordination of these processes continues to develop well into adolescence. As moral emotion expectancies develop, they may become more predictive of moral behavior. That is, as the expectation of moral emotions following moral acts becomes more established and consistent, they may come to exert a greater influence over behavior. Additionally, as individuals grow older they may begin to take the emotional consequences of their actions more seriously and be more likely to act on these emotion expectancies. Especially during adolescence, a time when self-awareness and self-consciousness is heightened (e.g., Enright, Shukla, & Lapsley, 1980; Rankin, Lane, Gibbons, & Gerrard, 2004), the anticipation of self-conscious moral emotions such as embarrassment and guilt may have a strong impact on behavior. Finally, an increasing influence of moral emotion expectancies on behavior is supported by the idea that as individuals enter adolescence they begin to form moral identities and integrate moral values into the self.

#### *Self-Importance of Moral Values*

A separate line of research has examined the association between the 'moral self' and moral behavior. The moral self can be conceptualized as the values and beliefs which become internalized through the processes of socialization and are represented in an individual's view of him or herself. It is believed that this moral self then serves as a regulator of moral conduct (Kochanska, 2002). The self provides a person with a sense of coherence, agency, and also a sense of control over their body and action (Emde, Biringen, Clyman, & Oppenheim, 1991).

Thus, in order to maintain this sense of coherence and consistency, moral behavior may be shaped by the self-view that individuals have of themselves on moral dimensions, or how important moral characteristics are to their sense of self.

This idea is supported by research on the development of the early self. Emde and colleagues (1991) argue that a moral self has developed by the age of three through both a set of motives which are biologically prepared and through interactions with caregivers. This moral self includes an individual's inclinations of what to do and what not to do and regulates conflicts between personal desires and social obligations. Once developed this moral self acts as a guide for moral conduct, first through procedural knowledge until values are fully internalized (Emde et al., 1991). Based on a review of several models of early and middle childhood, Harter (1998) found consensus in the belief that the self increasingly acts as a guide; roles and values become internalized as personal standards of conduct which regulate behavior.

Similarly, Deci & Ryan's (2000) self-determination theory suggests that moral conduct will be influenced by the extent to which moral values are internalized to the self. Self-determination theory argues that values which are fully internalized and integrated into the self are more likely to elicit behavior for intrinsic reasons than values which are only partially internalized. Integration occurs when values are assimilated to the self and brought into congruence with the other values that comprise the self. Values which are fully internalized are integrated into the self, or one's identity, and thus, behavior following from these ideals is spontaneous and natural (Deci & Ryan, 2000). Similarly, the differing motivations individuals possess for engaging in behavior (e.g. passive compliance vs. active personal commitment) are seen as a reflection of the degree

to which the relevant value has been internalized and integrated to the self. In other words, the extent to which moral concerns are integrated and internalized into an individual's moral self will impact his or her motivation to engage in moral behavior.

Although the moral self is present by the age of three, it is likely to continue to develop and change throughout childhood and into adolescence. Adolescence is a critical period for the formation of a coherent identity (Erikson, 1959) and during this time many individuals may become more or less committed to certain moral ideals. Studies of value internalization often focus on younger children and compliance with parental demands (e.g. Kochanska, 2002) but it is during adolescence that individuals come to define themselves through the acceptance of values and beliefs as their own (Deci & Ryan, 1991). During the identity exploration and development that comes with adolescence, values beyond those taught by parents may be considered, resulting in the continued development of the moral self.

Research by Nunner-Winkler (1998; 2007) on moral motivation highlights the idea that moral identities are still developing well into adolescence. Moral motivation derives from the importance a person attributes to moral values and interests and has been found to relate to various measures of behavior. For example, in adolescents aged 17 and 22, low moral motivation is associated with a higher number of rule transgressions (Nunner-Winkler, 2007). Moral motivation is thought to vary between individuals and to increase with age; when moral desires are integrated into a person's identity, moral action will follow from this. Nunner-Winkler (1998) suggests that while young children understand the validity of moral rules, they lack the moral motivation that comes from making moral values an important personal concern, and this prevents them from

fulfilling moral obligations when doing so conflicts with their own desires. When young children are presented with situations in which norms collided with personal desires, they tend to expect a person to feel good after transgressing and Nunner-Winkler (1998) takes this as an indication that young children lack moral motivation. Essentially, they do not have the motivation to do the right thing if it requires letting personal desires go unfulfilled because following moral rules is not an important moral concern for them.

Nunner-Winkler (2007) demonstrated an increase in the average level of moral motivation between the ages of 4 and 22, but also noted that a considerable amount of change occurred within individuals as they aged. It was suggested that value orientations likely change due to social context factors and changing life circumstances. This research seems to suggest that the importance assigned to moral values as part of an individual's identity will impact moral behavior and that this process of value internalization continues well into adolescence.

An association between the self-importance of moral values and behavior is also highlighted in research by Hart (2005), who views a moral identity as the integration of action plans and emotions which are the result of occasional conscious moral deliberations. When faced with a moral decision, people do not engage in conscious, rational calculations, but rather act in line with their consolidated moral identity (Hart, 2005). The integration of moral values to the self makes these values more salient (Blasi, 1995) and can also lead to the formation of action plans that make moral behavior more likely to result when faced with moral conflict (Colby & Damon, 1992). In fact, research has shown that endorsing the moral values of the self is more predictive of prosocial behavior than endorsement of positive but non-moral values of the self (Pratt,

Hunsberger, Pancer, & Alisat, 2003) which suggests that the integration of moral values to the self is associated with moral behavior. Additionally, this research by Pratt et al. (2003) found that individuals' moral self-ideals were stronger at age 19 than at age 17, which suggests that adolescents are still developing their moral identities at this age.

Further evidence that the self-importance of moral values is related to moral behavior comes from research by Barriga, Morrison, Liao, and Gibbs (2001). It was shown that males and females did not differ in moral judgment, but females were both higher in moral self-relevance and lower in levels of antisocial behavior. This suggests that the differing levels of antisocial behavior displayed by males and females are not due to any differences in moral judgment but rather to the degree to which people consider moral values relevant to their identity. In the study by Barriga et al. (2001) it was demonstrated that self-serving cognitive distortions, such as rationalizations and justifications, partially mediated the relationship between lower moral self-relevance and antisocial behavior. Moral self-relevance was shown to discourage the rationalization of or disengagement from one's actions, thereby limiting antisocial behaviors. This research demonstrates one way in which an individual's moral self can influence their decision to engage in moral or immoral action.

Additional research has also shown the importance of moral self-relevance to prosocial behavior. For example, the importance of moral values to the self has been shown to relate to teacher reports of ethical behavior in adolescence (Arnold, 1993). Colby and Damon (1995), in a study of adult moral exemplars, found that moral goals are central to these individuals' conceptions of their own identity, and similar research with adolescents by Hart, Yates, Fegley, and Wilson (1995) demonstrated that individuals

deeply committed to the care of others were more likely to use moral goals and moral personality traits when asked to describe themselves, as compared to a matched group of peers.

Aquino and Reed (2002) developed a measure of the self-importance of moral traits to an individual's identity and found that this measure was related to several behavioral outcomes. The authors found that moral trait self-importance could be broken down into two dimensions: symbolization, or the degree to which moral traits are reflected in the individual's actions, and internalization, or the degree to which moral traits are central to the self-concept. Both dimensions were shown to predict self-reported levels of volunteerism and scores on the symbolization dimension were positively associated with the level of perceived intrinsic satisfaction with those volunteer activities. Additionally, the internalization dimension was found to predict the quantity of food individuals actually donated to a food drive (Aquino & Reed, 2002). Thus, the degree to which moral traits are viewed as important to an individual's identity is associated in various ways with both moral and immoral behavioral outcomes.

#### *Relationships among the Moral Self, Moral Emotions, and Moral Behavior*

The previously discussed research demonstrates an association between moral emotions and moral behavior and an association between the moral self and moral behavior. The present research is aimed at exploring the efficacy of moral emotion expectancies in predicting moral behavior and, therefore, it is important to compare the association found between action and emotion expectancies to that between action and the moral self. If internalized values and beliefs are more closely associated with behavior in moral contexts than the anticipated emotional consequences, this will suggest

that moral emotion expectancies, like moral judgment, are not as important of a determinant of moral behavior and that future research should focus on the role of the moral self. Demonstrating superior predictive power of moral emotion expectancies, however, would highlight the importance of the association between these expectancies and levels of moral and immoral behavior. Figure 1 presents a depiction of the relationships under investigation. From a theoretical point of view, it can be argued that the moral self would be associated with moral emotion expectancies, as one function of emotions is thought to be informing individuals of the importance of moral values and concerns in their motivational structure (Blasi, 1999). This relationship was examined briefly in the current research, but was not an association of primary interest.

As previous research has demonstrated the importance of both moral emotions and the moral self in moral action, either of these variables could be the superior predictor. Most research demonstrating a link between the moral self and moral behavior has focused on prosocial activities as the outcome measure (e.g. Arnold, 1993; Colby & Damon, 1995) whereas most research indicating an association between moral emotions and moral behavior has focused on antisocial activities (e.g. Arsensio et al., 2004; Lochman & Dodge, 1994). In the present research we explored both of these predictors in the context of both antisocial behavior and prosocial behavior.

If moral emotion expectancies are found to have a greater connection than moral self scores with levels of prosocial and antisocial behavior then this would emphasize the importance of the relationship between emotion and behavior. This would suggest that the anticipations regarding emotional consequences might be more important to the decision-making process than internalized values when faced with an opportunity to

engage in moral or immoral actions. This, in turn, could have implications for programs aimed at either reducing antisocial behaviors by adolescents or encouraging prosocial activities.

### *The Present Research*

The present research was an examination of the relationship between moral emotion expectancies and self-reported moral action, both prosocial and antisocial, across adolescence. As previously mentioned, this association has been demonstrated in comparisons between groups of aggressive and non-aggressive youth (e.g. Lochman & Dodge, 1994; Arsenio et al., 2004). While this relationship has not previously been examined in a population of typically developing adolescents, it is likely that this association can also help to explain differences in prosocial and antisocial behavior in a normative population of youth. Slaby and Guerra (1988) demonstrated quantitative differences in aspects of social cognition among groups of adolescents and the ability to accurately anticipate the emotional consequences of certain behaviors may similarly vary in a quantitative fashion between individuals. In this way, emotion expectancies may provide an explanation for why some people choose to engage in prosocial behavior and why others engage in antisocial actions.

The findings of previous studies exploring moral emotion expectancies have been based on self-reports of behaviors, but in the present study we examined observed moral behavior in addition to self-reports. Additionally, the role of moral emotion expectancies in adolescent prosocial behavior had not been previously explored. Recent research with children (e.g. Lagattuta, 2005) suggests that moral emotion expectancies may contribute

to prosocial activities in a similar way to antisocial behavior. This idea was further explored in the current research by investigating this relationship in adolescents.

Additionally, we examined the role of positive self-evaluative moral emotion expectancies (i.e. pride and satisfaction) in both prosocial and antisocial behavior. It was hypothesized that adolescent behavior may be motivated by expectations of pride and satisfaction following either moral actions or resistance of temptations to act immorally. By including these positive moral emotion expectancies, the association between these expectancies and moral behavior can be compared to the association between negative emotion expectancies and moral behavior.

As the ability to anticipate the emotional consequences of rule transgressions increases during childhood, it appears that this capacity improves with age. Little research in this area has extended into the adolescent years, however, so it is unknown how long this ability continues to develop. Research has shown that the coordination of moral judgment and moral emotion improves with age in a large sample of high school students (Krettenauer & Eichler, 2006) so it appears that there may be changes in moral emotion expectancies during this time. Additionally, these moral emotion expectancies may come to exert a stronger influence on behavior with age. As individuals are forming identities and integrating moral concerns into the self during adolescence, the anticipated emotional consequences of actions may become more stable and may be taken more seriously by the individual.

Finally, previous literature has provided evidence for associations between both moral emotions and behavior and the moral self and behavior. This research was designed to disentangle the relationships among these three variables. While an

association between moral emotion expectancies and moral action is hypothesized, the moral self may represent a better predictor of behavior than any of the emotion variables under investigation. On the other hand, emotion expectancies could have a more powerful association with action than the self, suggesting that emotions might play a greater role in prosocial and antisocial action than value structures. Thus, the nature of the relationships among moral emotions, the moral self, and moral and immoral behavior was explored through this research.

### *Hypotheses*

The specific hypotheses and goals of the present research are as follows:

- i) Both positive (pride, satisfaction) and negative (guilt, embarrassment) self-evaluative emotion expectancies are associated with levels of antisocial behavior.
- ii) Similarly, both positive (pride, satisfaction) and negative (guilt, embarrassment) self-evaluative emotion expectancies are associated with levels of prosocial behavior.
- iii) Moral emotion expectancies are increasingly predictive of behavior (prosocial and antisocial) with age.
- iv) Finally, this research compared the associations of moral action in two domains (prosocial and antisocial) with moral emotion expectancies and the moral self.

### Method

A total of 235 participants from grades 7 ( $n = 48$ ; 10 males), 9 ( $n = 53$ ; 19 males), 11 ( $n = 54$ ; 18 males), and first-year university ( $n = 80$ ; 14 males) participated in this

study. The procedures used with the university sample differed slightly from that used with the younger samples, and a requisite of this difference was a disproportionately high number of university participants compared to the other age groups examined. As such, 50 university students were randomly selected to be included in the cross-sectional comparisons in order to approximate the number of participants from each of the other age groups. The only restriction on this selection was that all male university participants were included in the 50 selected for the cross-sectional analyses as this led to a male-female ratio similar to that present in the younger samples. Thus, the composition of participants and procedures used are discussed separately for the cross-sectional analyses and for the analyses specific to the university sample.

#### *Cross-sectional Sample*

##### *Participants*

The cross-sectional analyses included 205 adolescents from grades 7 ( $n = 48$ ; 10 males), 9 ( $n = 53$ ; 19 males), and 11 ( $n = 54$ ; 18 males), in addition to a sample of first-year university students ( $n = 50$ ; 14 males). The participants ranged in age from 11.33 to 19.08 years ( $M = 14.83$ ,  $SD = 2.21$ ). Elementary and high school participants were obtained from consenting schools in the Waterloo, Ontario region and were paid for their involvement in the study. The university students were recruited through first-year psychology courses at Wilfrid Laurier University and these participants received class credit as well as monetary compensation for their participation. After providing informed consent, participants were required to complete a written questionnaire as well as an interview component.

##### *Measures*

*Interview*

The interview component of the study consisted of 18 vignettes describing everyday situations in which a moral obligation is either regarded or disregarded. The situations describe moral conflicts that people are typically faced with in their everyday life (e.g. deciding whether or not to help someone who is hurt, wanting to steal a desirable item that you can't afford). The vignettes involve the three moral norms of respecting the property of others, honesty, and refraining from physically harming others. The three moral norms are presented in three different contexts. In an antisocial context the person observes others transgressing a moral norm, in a prosocial context the person is presented with an opportunity to help others, and in a temptation context the person is tempted to break a moral rule in order to gain personal profit. The scenarios are based on those used by Arsenio et al. (2004), but were created for this research. The vignettes were created so that a particular type of moral situation (e.g. stealing, cheating) is present in two scenarios: one scenario in which the moral norm is disregarded and one in which that same moral norm is regarded. All 18 scenarios used in the interview are presented in Appendix A. The vignettes were printed onto index cards and interviewers shuffled the cards prior to each new participant. In this way, the scenarios were presented in a randomized fashion.

Following each vignette, participants were asked to indicate how they would feel in this situation by distributing ten plastic chips on a poster board depicting eight emotions (happy, sad, proud, satisfied, angry, scared, embarrassed, and guilty). An additional category, ok/neutral, was also present on the poster board but was not included in analyses involving the emotion variables. Both the printed word and a drawing of the

emotional expression were presented on the poster. After distributing the chips, participants were asked to provide an explanation as to why they expected to feel each emotion indicated. Follow-up questions were used to ascertain why certain values or obligations were considered important by the participant. The qualitative data were obtained as part of a larger research project, of which this study was only a part. Only analyses of quantitative data are discussed here, as the qualitative interview data are presented elsewhere (e.g. Krettenauer & Johnston, submitted). The procedure used was similar to that of Arsenio et al. (2004).

Additionally, overall emotion ratings were assessed by asking participants to predict their overall emotion in each situation using a 7-point Likert type scale. After reporting their specific emotion expectancies using the chips, participants were presented with a scale ranging from *very bad* to *very good* with *neutral/ok* as the mid-point. They were asked to think about all of the various individual emotions, positive and negative, they anticipated in the situation to arrive at an overall valence. Thus, these overall emotion ratings represent a broader picture of the individual's emotional experience in a situation, and combine both moral (e.g. pride) and non-moral (e.g. happy) discrete emotions. This measure is similar to one used by Krettenauer & Eichler (2006).

Scores were obtained for both positive self-evaluative and negative self-evaluative emotion expectancies for each participant based on his or her chip distributions. Positive emotion expectancies were calculated as the sum of the proportion of chips placed on *proud* ( $M = 2.60$ ,  $SD = 1.43$ ; range = 0 to 7.05) or *satisfied* ( $M = 2.21$ ,  $SD = 1.36$ ; range = 0 to 5.60) for all vignettes in which a moral norm is regarded (i.e. the proportion scores for the nine regarded scenarios were summed). Negative emotion

expectancies were calculated as the sum of the proportion of chips placed on *embarrassed* ( $M = 0.56$ ,  $SD = 0.72$ ; range = 0 to 3.40) or *guilty* ( $M = 5.02$ ,  $SD = 1.58$ ; range = 0.60 to 8.91) for all nine vignettes in which a moral norm is disregarded.

Descriptive statistics for each age group on all measures used in the study are presented in Table 1.

Each positive emotion expectancy (i.e. pride and satisfaction) and each negative emotion expectancy (i.e. embarrassment and guilt) was examined as an independent predictor; thus, four variables representing self-evaluative moral emotion expectancies were obtained. The reliability across norm-disregarded vignettes of guilt ratings was Cronbach's alpha = .61, and the reliability of embarrassment ratings across these vignettes was .61. Across norm-regarded vignettes, pride ratings had a reliability of Cronbach's alpha = .59 whereas satisfied ratings had a reliability of .56. Therefore, the reliability of the emotion ratings appears to be low, but this may result from the fact that the emotions are assessed using different types of situations. For example, although donating money to a charity and refraining from cheating on a test both involve adherence to moral norms, these two situations may not elicit quite the same emotion expectancies from an individual.

In addition to the individual emotion ratings, an overall score representing the participant's overall emotion expectancy was obtained for scenarios in which a moral norm is regarded and for scenarios in which a moral norm is disregarded. This score was calculated by summing the overall scale ratings (ranging from 1 to 7) across all nine norm-regarded vignettes and then all nine norm-disregarded vignettes, respectively. These scores provide a measure of the individual's general expected emotional response

to moral situations when taking into account all the emotions he or she would experience in the situation. Overall ratings for disregarded scenarios ranged from 10 to 46 ( $M = 21.73$ ,  $SD = 6.04$ ) and overall ratings for regarded scenarios ranged from 31 to 62 ( $M = 49.05$ ,  $SD = 5.95$ ). The same 7-point scale (*very bad* to *very good*) was used for norm-regarded and norm-disregarded scenarios. Thus, a score of 36 represents a mean rating of *neutral/ok* on those nine scenarios. The mean of the disregarded scenarios (21.73) demonstrates that participants generally reported emotional expectations closer to the negative end of the scale in these situations, while expectations closer to the positive end of the scale (49.05) were reported for regarded scenarios. Cronbach's alpha for the overall ratings given in response to norm-disregarded scenarios was .76, while the reliability for norm-regarded scenarios was .74.

### *Questionnaire*

The questionnaire used in the study was a compilation of various measures.

*Self-reported prosocial and antisocial behavior.* Self-reported antisocial and prosocial behavior levels were assessed by listing 50 different activities and asking participants to indicate how often they engaged in each of these behaviors in the last year. Items assessing antisocial behavior were compiled from a variety of antisocial behavior scales: the Short-Nye Self-Report Delinquency Items (Short & Nye, 1958), the Seattle Self-Report Instrument (Hindelang, Hirschi, & Weis, 1981), the Self-Reported Delinquency Form for Youths (Blakely, Kushler, Parisian, & Davidson, 1980), the Self-Report Delinquency Scale (Gibson, 1967), in addition to items used by Raaijmakers, Engels, and Van Hoof (2005) and Overbeek, Vollebergh, Meeus, Engels, and Luijpers (2001). Items were chosen for the present study based on their frequency in the

previously mentioned scales and also their applicability to the age group of present participants. The items range from minor delinquent acts, such as fare-dodging, to more violent offenses, such as assault. The 20 antisocial items were found to have a Cronbach's alpha of .78.

The Youth Inventory of Involvement scale (Pancer, Pratt, Hunsberger, & Alisat, 2007) was used to assess prosocial behavior in various areas (e.g. community, school, and politics) and includes various types of behavior (e.g. being member of a group, or organizing an event). The validity of this scale has been demonstrated and the scale has excellent internal consistency (Cronbach's alpha from .88 to .90; Pancer et al., 2007). In the present sample, these 30 items were shown to have a Cronbach's alpha of .87.

Although all 30 items were presented to participants, the final score representing prosocial behavior derived for the analyses included only a subset of the total items. In order to obtain a measure of prosocial behavior similar to the type of prosocial action present in the interview vignettes, only items which related to the actions of helping others, donating money or time, and volunteering were included. Items relating to political and religious action were excluded, as these items may represent a different type of prosocial behavior. Nine items were selected to create the overall prosocial behavior score, and these items had a Cronbach's alpha of .74. The lower reliability of this subset, as compared to the full scale, is expected due to the fewer number of items included, and the subset correlated highly with the full scale  $r(204) = .88, p < .001$ .

The compilation of antisocial items and the Youth Inventory of Involvement scale were presented to participants as one scale (prosocial and antisocial items intermixed) and included statements such as "Intentionally damaged or destroyed people's private

property” (antisocial) and “Visited or helped out people who were sick” (prosocial).

Participants were asked to indicate whether, in the past year, they: *never did this, did this once or twice, did this a few times, or did this several times*. In this sample, scores on the nine prosocial items ranged from 0 to 26 ( $M = 14.36, SD = 5.18$ ). Scores on the 20 antisocial items ranged from 0 to 38 ( $M = 5.76, SD = 5.87$ ).

*Self-centrality of moral attributes.* The questionnaire also included the Good-Self Assessment (Barriga et al., 2001) developed by Arnold (1993). This scale measures the centrality of moral personality traits to an individual’s self-understanding. The measure consists of 16 questions which ask the participant “How important is it to you that you are....?” Eight questions end with a moral characteristic while the other eight end with a non-moral characteristic that is still socially desirable (e.g. outgoing/sociable). The eight moral traits included were: considerate/courteous, honest/truthful, kind/helpful, understanding/sympathetic, generous/giving, sincere/genuine, fair/just, and responsible/dependable. Each item gave two synonyms of the trait to help disambiguate the meaning of the personality characteristic in question. The eight non-moral traits included were: creative/imaginative, careful/cautious, outgoing/sociable, athletic/agile, funny/humorous, logical/rational, independent/self-reliant, and active/energetic.

For each item, participants were required to select among *extremely important to me, very important to me, important to me, sort of important to me, and not important to me* to state how central the characteristic in question was to their sense of self. These responses were scored from 1 (*not important to me*) to 5 (*extremely important to me*). Summed scores of the eight moral items ranged from 17 to 40 ( $M = 31.43, SD = 4.58$ ). Cronbach’s alpha for the eight moral items was .80. Summed scores of the eight non-

moral items ranged from 17 to 38 ( $M = 27.73$ ,  $SD = 4.35$ ) with a Cronbach's alpha of .56. An overall score representing the centrality of moral traits to the self was derived by using the standardized residuals from a regression predicting the centrality of moral characteristics from the centrality of non-moral characteristics. Thus, more positive scores represent a greater centrality of moral traits after taking into account the centrality of other socially desirable traits to that individual.

*Social desirability response bias.* Additionally, the questionnaire included a well-validated measure of socially desirable response biases (Blake, Valdiserri, Neuendorf, & Nemeth, 2006). This measure was created for use with youth samples and is comprised of 17 items, such as "I occasionally speak badly of others behind their backs" and "Sometimes I only help because I expect something in return." Participants were asked to read these statements and check *true* or *false* depending on whether the item described them or not. After reverse coding all negative items, a sum score was calculated with higher scores representing a greater socially desirable response bias. The Cronbach's alpha of these 17 items was .65. Scores on this measure ranged from 1 to 17 ( $M = 8.28$ ,  $SD = 3.17$ ).

### *Procedure*

Data from the elementary school and high school participants were obtained as part of a larger research project already underway. After receiving approval from both the Wilfrid Laurier University ethics review board and the Waterloo Region District School Board, public schools in the Kitchener-Waterloo region were contacted. Students in grades 7, 9, and 11 at interested schools were invited to participate in the study for

monetary compensation. Interviews and questionnaires were administered to students at their schools but not during class time.

Interviews were conducted by six individuals who received training on the interview protocol. Before the interview began, participants were familiarized with the emotion poster and chip distribution procedure by reporting their current emotional state using the chips. All interviews were tape recorded for later transcribing and coding, but during the interview interviewers manually recorded the number of chips placed on each emotion and the overall emotion rating.

Questioning followed a similar pattern after each vignette was read. Participants were asked to think about how they would feel in this particular situation and to report these emotion expectancies by placing up to 10 chips on the poster depicting emotional expressions. Participants were instructed to use as many or as few of the 10 chips as they felt was necessary and to place chips on any number of emotional expressions at one time. Once the chips were placed, participants were asked to explain why they expected to feel each of the selected emotions. Follow-up questions were used to probe the reasons why moral values and actions were considered important by the individual. For example, one common follow-up probe was “Why would it be important to you to do the right thing in this situation?” The qualitative interview data were used in a separate research project (Krettenauer & Johnston, submitted). After all emotion expectancies were probed, participants were presented with a 7-point scale and asked to rate their overall emotion expectancy from *very bad* to *very good*. Once participants completed the interview and questionnaire they were paid \$15 and provided with a debriefing sheet.

*University Sample*

### *Participants*

The university sample included 80 participants (66 females) recruited through first-year psychology courses at Wilfrid Laurier University. Participants ranged in age from 16.25 to 21.33 years ( $M = 17.66$ ,  $SD = .69$ ). This group of participants received class credit as well as monetary compensation for their participation.

### *Measures*

Participants in the university sample were given the same interview and questionnaire already described as part of the cross-sectional study. Two additional assessments, which measured observable behavior, were used with the sample of university students. A measure of honesty, based on the procedure used by Bersoff (1999), was used whereby half of the university participants were overpaid for their involvement in the study and whether they reported this mistake or not was taken as a measurement of honesty. The other half of university participants were given the opportunity to donate a portion of their monetary compensation to a campus charity campaign (United Way) and the amount of money donated was used as a measure of prosocial behavior. The procedure used to measure prosocial behavior was modeled after that used by Twenge, Baumeister, DeWall, Ciarocco, and Bartels (2007).

The honesty condition ( $n = 40$ ) included 8 male participants. In this condition, 24 participants (6 males) were honest with the interviewer and attempted to return the extra money, while the other 16 participants did not. The charitable behavior condition ( $n = 40$ ) included 6 male participants. In this condition, the amount of money donated ranged from \$1 to \$15 ( $M = 2.11$ ,  $SD = 3.53$ ). Of the 19 participants who donated money, only two

participants donated all \$15; thus, a dichotomous variable was created (donated money vs. did not donate money) to minimize the influence of these outliers on the results.

### *Procedure*

Undergraduate students were given the opportunity to participate in the study to obtain course credit in addition to monetary compensation. Participants were recruited through an introductory psychology class at Wilfrid Laurier University. They signed up for time slots and came into the lab on an individual basis. Both the interview and questionnaire were completed by the university students following the same procedure used with elementary and high school participants. Interviews for this sample were conducted by three trained female researchers. One researcher conducted 68% of the interviews while the other two each conducted approximately 16% of the interviews. All three of these researchers also conducted interviews with participants in the younger age groups as part of the cross-sectional data collection.

Once the interview and questionnaire components of the study were completed, participants completed one of two conditions (prosocial or honesty) for the third part of the study. The prosocial condition was run first, with the first 40 university participants completing this behavioral assessment. The final 40 participants comprised the honesty condition. Individuals assigned to the 'honesty' condition were overpaid for their participation, seemingly as the result of a mistake by the interviewer. Prior to their participation, all participants were told that they will receive \$10 as compensation. In the honesty condition, once participants completed the interview and questionnaire they were again told that they would receive \$10 compensation but were handed \$15 (i.e. a \$10 bill and a \$5 bill instead of two \$5 bills). The interviewer appeared oblivious to the mistake

and busied herself with some paperwork. The measure taken was whether the participant informed the interviewer of the mistake. Participants who attempted to return the money were told that the interviewer made a mistake by originally stating \$10 as the payment and got to keep all \$15. This procedure is based on one used by Bersoff (1999).

Participants in the 'prosocial' condition were recruited for the study in a similar way to participants in the 'honesty' condition; that is, they were told that they would receive \$10 compensation (in addition to course credit). Once they arrived at the study, however, participants were told that they would now be receiving \$15 compensation. Upon completion of the interview and questionnaire, all participants in this condition were given \$15. The payment was given as two \$5 bills, two \$2 coins, and one \$1 coin. After paying the participant, the interviewer informed him or her that the research lab was collecting money for the United Way, an on-campus charity campaign. The interviewer then pointed out a donation box that was on the participant's way out of the lab. After a quick description of the charity, the interviewer stated that donations are appreciated but not necessary and then turned away and busied herself with some paperwork. The measure taken was the amount of money donated to the charity by the participant. All donations were given to the United Way. This procedure is based on one used by Twenge et al. (2007).

In this sample, participants were debriefed following the interview and questionnaire in the same way as the high school sample. Thus, they believed that the study was over. Following this, the behavioral assessment took place (honesty or charitable behavior assessment). Participants were then debriefed a second time regarding this third measure. As participants were not able to give informed consent for this final

behavioral measure, they were given the option of withdrawing from the third part of the study at that point in time, in which case their data would have been destroyed. No participants chose to withdraw from this or any other part of the study.

## Results

The data were used to explore four main hypotheses: moral emotion expectancies are associated with prosocial behavior, moral emotion expectancies are associated with antisocial behavior, moral emotion expectancies become more predictive of behavior with age, and the data were also used to explore the associations among moral emotion expectancies, moral behavior, and the moral self. Results will be discussed first for the cross-sectional sample, which includes the grade seven ( $n = 48$ ), nine ( $n = 53$ ), and eleven ( $n = 54$ ) participants as well as the 50 randomly selected university participants. Preliminary analyses in this sample investigated possible age and gender differences in the three categories of variables included in the study: moral emotions, moral behavior, and the moral self. Additionally, the contributions of each moral emotion expectancy variable to the overall scale ratings were examined. Next, correlational analyses among the three categories of variables (moral emotions, moral behavior, and the moral self) were conducted, followed by regression analyses examining the relative contributions of moral emotions and the moral self to moral behavior and possible interactions with age. After presenting the cross-sectional results, the analyses involving the behavioral measures administered to the full university sample will be discussed. These analyses consisted primarily of correlations among the variables of interest.

### *Cross-sectional Sample*

#### *Preliminary Analyses: Gender and Age Differences*

*Moral emotion expectancies.* Univariate ANOVAs were used at the outset to determine any gender and age differences in the tendency to report each of the four moral emotion expectancies (pride, guilt, embarrassment, satisfaction). The four emotion variables were calculated as the proportion of chips placed on that emotion during the interview vignettes. The proportions were summed across nine of the 18 scenarios (the nine scenarios in which a moral norm was disregarded for guilt and embarrassment ratings, and the nine scenarios in which a moral norm was regarded for pride and satisfaction ratings). Results of the ANOVAs showed a significant age group effect for embarrassment ratings,  $F(3,197) = 2.91, p = .036$ . Least Significant Difference (LSD) post-hoc tests ( $\alpha = .05$ ) revealed that the university participants ( $M = .80, SD = .82$ ) differed significantly from the grade 7 ( $M = .49, SD = .66$ ) and grade 9 ( $M = .39, SD = .57$ ) participants but not from the grade 11 participants ( $M = .56, SD = .76$ ). Thus, these findings show significant increase in embarrassment ratings in situations where a moral norm is disregarded with increasing age.

For pride ratings in response to regarded scenarios, a significant age group by gender interaction was found,  $F(3,197) = 5.70, p = .037$ . In this case, grade seven males reported the least amount of pride ( $M = 1.81, SD = 1.30$ ) while grade seven females reported the highest levels of pride ( $M = 3.16, SD = 1.54$ ), all other means ranged from 2.25 to 2.81 ( $SDs$  of .95 to 1.70). When looking at satisfaction ratings for regarded scenarios, a significant age group effect was found,  $F(3,197) = 7.00, p < .001$ , whereby the university participants ( $M = 3.01, SD = 1.40$ ) reported significantly higher levels of satisfaction than the grade seven students ( $M = 1.79, SD = 1.34$ ), grade nine students ( $M = 1.95, SD = 1.29$ ), and grade eleven students ( $M = 2.08, SD = 1.14$ ). No age or gender

effects were found for guilt ratings. Thus, it appears that in this sample, expectations of embarrassment following the transgression of a moral rule and satisfaction after obeying a moral rule increase with age, while expectations of pride are quite different for young males and females but become more similar with age.

Univariate ANOVAs were also used to determine whether any age or gender differences were present in the overall emotion scale ratings (ranging from 1 to 7) representing the overall emotional valence and strength of that valence expected in the situations. No significant age or gender effects were found for overall ratings in the regarded or the disregarded scenarios; however, in disregarded scenarios males ( $M = 22.93$ ,  $SD = 5.96$ ) reported slightly more positive ratings than females ( $M = 21.22$ ,  $SD = 6.02$ ) and this approached significance,  $F(1,192) = 3.39$ ,  $p = .067$ .

*Self-reported moral behavior.* Investigations into possible age and gender differences in self-reported antisocial and prosocial behavior were also conducted. A univariate ANOVA examining antisocial behavior as a dependent variable found both a significant effect of age group,  $F(3,196) = 3.35$ ,  $p = .020$ , and a significant effect of gender,  $F(1,196) = 10.70$ ,  $p = .001$ . Males ( $M = 7.69$ ,  $SD = 7.02$ ) reported higher levels of antisocial behavior than females ( $M = 4.94$ ,  $SD = 5.12$ ), and university students ( $M = 7.92$ ,  $SD = 6.18$ ) reported significantly more antisocial behavior than grade 7 ( $M = 4.21$ ,  $SD = 5.89$ ) and 9 ( $M = 5.06$ ,  $SD = 5.47$ ) students, but not significantly more than grade 11 students ( $M = 5.81$ ,  $SD = 5.51$ ). Thus, a significant increase in antisocial behavior with age was demonstrated. Similar analyses using prosocial behavior as the dependent variable demonstrated only a marginal effect of gender,  $F(1,197) = 3.79$ ,  $p = .053$ .

Females ( $M = 14.80$ ,  $SD = 5.10$ ) reported slightly more prosocial activities than males ( $M = 13.33$ ,  $SD = 5.25$ ).

*Moral self.* Finally, a univariate ANOVA was used to examine age and gender differences in the standardized residual score obtained when predicting scores reflecting the importance of moral traits from scores reflecting the importance of non-moral, socially desirable traits. This analysis revealed a significant effect of gender,  $F(1,196) = 7.56$ ,  $p = .007$ , with females ( $M = .06$ ,  $SD = .95$ ) obtaining a more positive residual than males ( $M = -.35$ ,  $SD = 1.1$ ). Thus, females were more likely to value moral characteristics than males after taking into consideration their self-importance of non-moral traits. No age differences were found in the importance of moral characteristics to the self in this sample,  $F(3,196) = .82$ ,  $p = .482$ . Although age differences may be expected, similar findings have previously been reported demonstrating that the place of morality in the self shows little change through adolescence (e.g. Arnold, 1993).

#### *Preliminary Analyses: Relations between Specific Emotions and Overall Ratings*

The procedure of the current research involved two methods of assessing emotion expectancies: chip ratings of eight specific emotions, and a scale rating of the overall emotional experience. The overall ratings were meant to capture the full picture of an individual's anticipated emotional experience, and participants were asked to combine all of the specific emotions they would feel into one overall rating. To assess whether this was in fact the case, the next line of investigation examined how each of these specific emotion expectancies contributed to the overall emotional ratings expected in a situation. Two linear regressions were conducted, first with the overall ratings in disregarded scenarios as the dependent variable and then with the overall ratings in regarded

scenarios as the dependent variable. The summed proportions of each of the emotions (guilty, proud, satisfied, embarrassed, angry, scared, happy, sad) expected in the respected set of scenarios (disregarded, regarded) were used as the predictors. For disregarded ratings, the model was significant,  $F(8, 191) = 28.82, p < .001$ , with 54.7% of the variance accounted for. The highest standardized beta coefficients were for guilty ( $\beta = -.49$ ) and sad ( $\beta = -.44$ ). When correlating each emotion with the overall ratings for disregarded scenarios, all emotions except for embarrassed and scared were correlated with the overall ratings (significant  $r(198)$ 's range from  $-.20$  to  $.59$ ; see Table 2)

The linear regression with overall ratings for regarded scenarios as the dependent variable also found a significant model,  $F(8, 174) = 27.68, p < .001$ , with 56.0% of the variance accounted for. The emotions with the highest standardized beta coefficients were proud ( $\beta = .51$ ) and happy ( $\beta = .44$ ). When correlating each emotion with the overall ratings for regarded scenarios, all emotions were significantly correlated except for satisfaction (significant  $r(197)$ 's range from  $-.24$  to  $-.41$ ; see Table 3). Thus, it appears that when making a judgment of the overall emotional experience they anticipate in a situation, participants were able to consider the specific emotions they would experience and average across these, with some emotions making a larger contribution than others.

### *Correlational Analyses*

Correlational analyses were used to test the hypothesis that moral emotion expectancies are associated with prosocial and antisocial behaviors and to also get a preliminary picture of the associations among moral emotion expectancies, moral behavior, and the moral self.

*Moral emotions and the moral self.* Each of the four moral emotion expectancies was correlated with the standardized residual score representing the self-importance of moral values (moral self) to determine whether the extent to which individuals value moral traits is associated with the emotions they anticipate in moral situations. Out of the four moral emotions examined in this research (guilt, pride, satisfaction, embarrassment) only guilt was significantly correlated with the self-importance of moral values,  $r(202) = .16, p = .026$ . When correlating the self-importance of moral values with the overall emotion ratings, however, a much stronger association was observed. Overall ratings in disregarded scenarios,  $r(197) = -.46, p < .001$ , and overall ratings in regarded scenarios,  $r(196) = .30, p < .001$ , were both significantly correlated with the present measure of the moral self (see Table 4). Therefore, it seems that the overall emotional experience anticipated in moral situations is more closely associated with the moral self than the expectation of any specific moral emotion. This finding seems to suggest that all emotions anticipated in a situation are required to best predict behavior in a moral context, of which self-evaluative moral emotions are only a part.

*Moral emotions and self-reported behavior.* Correlational analyses were also used with all four moral emotion expectancy variables and both self-reported antisocial behavior and self-reported prosocial behavior to determine whether the emotions that participants expected in moral situations was related to their behavior in similar situations. Self-reported antisocial behavior was found to correlate significantly only with expectations of guilt,  $r(202) = -.22, p = .002$ . The only significant correlation found with self-reported prosocial behavior was expectations of embarrassment,  $r(203) = .15, p = .034$ . When correlating the two behavioral measures with the overall emotion ratings, it

was found that the overall ratings for disregarded scenarios were associated with antisocial behavior scores,  $r(197) = .34, p < .001$ , but not prosocial behavior scores, and overall ratings for regarded scenarios predicted prosocial behavior scores,  $r(197) = .16, p = .027$ , but not antisocial behavior scores (see Table 4). Thus, behavior appears to be more closely associated with expectations of the overall emotional rating of a situation than any specific emotion. Additionally, these associations appear independent to the type of situation at hand, that is, when presented with an opportunity to transgress a moral rule versus when presented with an opportunity to follow a moral rule or engage in prosocial activities.

*Self-reported behavior and the moral self.* Both types of moral behavior were correlated with the self-importance of moral values scores to explore whether, in the present sample, moral behavior was associated with an individual's moral self. The self-importance of moral values score was found to correlate with both self-reported antisocial behavior,  $r(201) = -.22, p = .002$ , and self-reported prosocial behavior,  $r(202) = .24, p < .001$  (see Table 4). Therefore, the results indicate that, after taking into account the importance of non-moral traits, individuals who rate moral traits as more important to their self-concept are significantly more likely to engage in prosocial activities and significantly less likely to engage in antisocial activities than individuals for whom moral traits are less important.

#### *Regression Analyses*

Based on the correlational analyses just presented, the overall emotional ratings appear to capture more fully the emotion expectancies associated with moral situations. These ratings were shown to be comprised of the specific emotions expected in the

situation and the ratings also have greater associations with the moral self and moral behavior. For this reason, the overall emotion ratings for regarded and disregarded scenarios were used in the regression analyses instead of the four moral emotion expectancy variables. Linear regressions were used to further explore the associations that emotion expectancies and moral self scores have with behavior.

The first regression examined self-reported prosocial behavior as the dependent variable and included the overall emotion ratings for disregarded scenarios, overall emotion ratings for regarded scenarios, and the self-importance of moral traits scores as the predictors. This model was shown to be significant,  $F(3,189) = 3.96, p = .009$ , with 5.90% of the variance accounted for by the model. The only predictor in the model that was significant, however, was the self-importance of moral values (moral self),  $t(186) = 2.56, p = .011$  (see Table 5a). Thus, the moral self appears to predict self-reported prosocial activities whereas the moral emotion variables did not contribute significantly to the model (see Figure 2). To ensure that the effect of the moral self score on prosocial behavior could not be explained by social desirability, age or gender, the regression was run a second time with the self-importance of moral trait scores, age, gender, and social desirability as the predictors. The score representing participants' moral self remained significant in predicting self-reported prosocial behavior,  $t(193) = 2.91, p = .004$ , while none of the control variables contributed significantly to the model (see Table 5b).

The second regression examined self-reported antisocial behavior as the dependent variable and included overall emotion ratings for disregarded scenarios, overall emotion ratings for regarded scenarios, and the self-importance of moral traits scores as the predictors. This model was also shown to be significant,  $F(3,188) = 9.11, p$

< .001, with 12.7% of the variance accounted for. In this model, the only significant predictor was the overall emotion ratings for disregarded scenarios,  $t(185) = 4.03, p < .001$  (see Table 6a). Thus, unlike prosocial behavior, self-reported antisocial activities are significantly predicted by the overall emotions expected in similar situations where a moral norm is broken, but is not significantly predicted by the moral self or by emotions expected in situations where a moral norm is followed (see Figure 2).

Similar to the regression involving prosocial behavior, this regression was run a second time with emotion ratings for disregarded scenarios, age, gender, and social desirability as predictors to determine whether the emotion ratings continued to be a significant predictor of antisocial behavior when controlling for these three other variables. In this case, overall emotion ratings in disregarded scenarios remained as a significant predictor of self-reported antisocial behavior,  $t(188) = 4.16, p < .001$ . All three control variables also contributed significantly to the model: gender,  $t(188) = -2.02, p = .045$ ; age,  $t(188) = 2.42, p = .016$ ; social desirability,  $t(188) = -4.96, p < .001$  (see Table 6b).

#### *Age as a Moderating Variable*

The final analyses involving the cross-sectional data tested the hypothesis that emotion expectancies would become more predictive of behavior with age. Specifically, the data were used to investigate whether the findings from the regression analyses differed based on the age of the participants. Based on the analyses discussed above, it was shown that self-importance of moral trait scores predict self-reported prosocial behavior and emotion ratings in hypothetical situations where moral norms are disregarded predict self-reported antisocial behavior. It seems quite possible, however,

that participant age may moderate these relationships. As individuals progress through adolescence and become more sophisticated and more self-aware, their emotion expectancies may become more consistent. In the same way, they may be increasingly likely to use their emotion expectancies to regulate their behavior. Regression analyses were again used to test the hypothesis that emotion expectancies would predict behavior to a greater degree in older participants. A dummy variable representing participant age group was used which compared younger participants (grade seven and nine; scored as 0) to older participants (grade eleven and university; scored as 1).

The first regression examining age as a moderator included the dummy age variable and the self-importance of moral trait scores as predictors in the first step, the interaction of dummy age and self-importance of moral trait scores as a predictor in the second step, and self-reported prosocial behavior as the dependent variable. Results indicated that the model including age and moral self scores was significant,  $F(2, 201) = 6.27, p = .002$ , and this model was not improved significantly by including the interaction of age and moral self scores,  $R^2 \text{ change} = .004, p = .365$ . Thus, the relationship between the moral self and prosocial behavior does not appear to be moderated by age in this sample (see Table 7).

The second regression examining age as a moderator included the dummy age variable and the overall emotion ratings from norm-disregarded scenarios as predictors in the first step, the interaction of these two variables as a predictor in the second step, and self-reported antisocial behavior as the dependent variable. The results of this analysis demonstrated that the model including age and disregarded scenario ratings was significant,  $F(2, 196) = 15.73, p < .001$ , and that this model was improved significantly

by adding the interaction of age and disregarded scenario emotion ratings,  $R^2$  change = .03,  $p = .010$ . Therefore, the relationship between overall emotion ratings in hypothetical norm-disregarded scenarios and self-reported antisocial behavior is moderated by age in the present sample. Specifically, the predictive effect of the emotion ratings is stronger for older participants than for younger participants. Older participants who expect more positive emotions after disregarding moral norms (low levels of negative self-evaluative emotions) are more likely to report high levels of antisocial behavior than young participants who show low levels of negative self-evaluative emotions (see Table 8). The results remain unchanged when participants' age in years is used instead of the dummy age variable.

#### *University Sample*

The university sample completed all of the same measures as the cross-sectional sample plus one of two behavioral measures. The data from this sample was used to test the hypothesis that moral emotion expectancies are associated with both prosocial and antisocial behavior. This sample of university students, however, was used to compare the results of analyses using self-reported behavior with those using observed behavior. To begin with, the observed measures of dishonesty and charitable behavior were correlated with the moral emotion variables and the self-importance of moral values scores. When examining possible relationships between the four moral emotion expectancies variables (guilt, pride, satisfaction, embarrassment) and both of the behavioral measures, no correlations were significant (dishonesty,  $r(38)$ 's range = -.004 to -.12; charitable behavior,  $r(38)$ 's range = .03 to .18). Similarly, the overall ratings for regarded and disregarded scenarios were not significantly correlated with the two

behavioral measures of dishonesty (regarded,  $r(38) = -.13, p = .431$ ; disregarded,  $r(38) = .15, p = .351$ ) and charitable behavior (regarded,  $r(38) = .10, p = .528$ ; disregarded,  $r(38) = -.05, p = .742$ ). Thus, it seems that the behavioral measures were not associated with the moral emotion variables in the present research while self-reported behaviors were significantly associated with emotion expectancies.

When correlating the measure of moral self with the two behavioral scores, no significant correlations were found (dishonesty,  $r(38) = -.24, p = .135$ ; charitable behavior,  $r(38) = -.10, p = .540$ ). Consequently, similar to the results with moral emotions, in the present research self-reported behavior was found to be associated with a measure of the moral self while behavioral assessments were not. When examining the relation between self-reported and observed behavior in the university sample, self-reported prosocial behavior was not correlated with the dishonesty measure,  $r(37) = -.07, p = .693$ , or the charitable behavior measure,  $r(38) = .10, p = .554$ . Self-reported antisocial behavior was not related to observed charitable behavior,  $r(38) = -.12, p = .473$ , but it was correlated with dishonesty,  $r(37) = .33, p = .042$ . Thus, although people who reported more antisocial activities were more likely to be dishonest, the observed measures in the present research do not appear to be significantly related to any of the other variables used in the study.

One explanation for the lack of a significant relationship between observed behavior and the emotion expectancy variables is that the behavioral measures assessed very specific behaviors, as opposed to the self-reported behavior scores which represent a broad and generalized measure of behavior. To determine whether emotion expectancies which are more specific to the behaviors assessed would predict the dishonesty and

charitable behavior scores, regressions were run using the overall ratings from scenarios dealing with those individual behaviors as predictors. The overall ratings were used as predictors instead of the four individual emotion variables, as the overall ratings proved to be more closely associated with behavior in the previous analyses.

A regression with dishonesty as the dependent variable was run with the overall emotion ratings from the vignette in which the person ends up engaging in a dishonest act. In this scenario, the individual steals a small object from a store. Results showed that this model did not significantly predict dishonesty,  $F(1, 38) = .19, p = .667$ , with only .50% of the variance accounted for (standardized beta = .07). Next, the overall emotion ratings from the vignette in which the individual acts in an honest way (does not steal when given the opportunity) was used as the predictor for dishonesty scores. This model approached significance,  $F(1, 38) = 3.28, p = .078$ , with 7.9% of the variance in dishonesty accounted for (standardized beta = -.282). Perhaps with a larger sample size this model would have proven to be significant, suggesting that participants who expected to feel more positively about themselves after resisting a temptation to be dishonest were less likely to act in a dishonest way.

The same procedure was employed for charitable behavior scores, using the overall emotion ratings from a scenario in which the person donated money to a charity and a scenario in which the person does not donate when presented with the opportunity. Neither of these emotion variables significantly predicted charitable behavior: donation scenario,  $F(1, 38) = 2.52, p = .121$ ; no donation scenario,  $F(1, 38) = 2.30, p = .138$ . Thus, charitable behavior was not found to relate to emotion expectancies and dishonesty showed an association with overall ratings in a specific scenario that only approached

significance. These results do not confirm the relationships observed in the cross-sectional sample and may suggest that these behavioral measures are not an adequate assessment of general behavioral tendencies.

### Discussion

In the present study, we examined the relationship between moral emotion expectancies and moral action, both prosocial and antisocial, across adolescence. With this research we aimed at extending previous research on the relationship between moral emotions and moral behavior in childhood to look at how this association may change during adolescence. Additionally, we were interested in exploring the relationships among moral emotion expectancies, moral behavior, and the moral self. The results of this research will be discussed according to the hypotheses outlined previously.

#### *Moral Emotion Expectancies and Antisocial Behavior*

The first hypothesis was that both positive and negative moral emotion expectancies would be associated with levels of antisocial behavior. When correlation analyses were used with each of the four emotion expectancy variables and self-reported antisocial behavior, however, only expectations of guilt were significantly related to this measure. The negative association between guilt and antisocial behavior is consistent with the previous literature in this field, suggesting that expectations of guilt can function to inhibit antisocial actions (e.g. Lake et al., 1995). In this study, participants who anticipated feeling more guilt after engaging in antisocial behaviors reported lower levels of these behaviors than participants who anticipated less guilt. Although it was hypothesized that all self-evaluative moral emotion expectancies under investigation would be related to antisocial behavior, satisfaction, pride, and embarrassment were not

significantly correlated with this measure. Therefore, it appears that the expectation of positive moral emotions following adherence to a moral norm is not associated with adolescents' self-reported levels of antisocial behavior, contrary to what was predicted.

Although it was hypothesized that positive moral emotion expectancies, in addition to negative moral emotion expectancies, would be associated with antisocial behavior, it is not entirely surprising that no association was found. Positive moral emotion expectancies were measured as the number of chips placed on *pride* and *satisfaction* in norm-regarded scenarios, so it does seem consistent that behavior in a different type of situation (when a moral norm is disregarded) would have no association to emotion expectancies in these situations. The lack of association between self-reported antisocial behavior and expectations of embarrassment is more puzzling, although embarrassment is generally viewed as playing a more minor role in morality than guilt (Tangney et al., 2007).

An additional explanation may be seen in the distinction Lewis and Ramsay (2002) make between different forms of embarrassment (negative self-evaluation vs. non-evaluative exposure to others). In the context of the present research, embarrassment likely signified a less intense form of shame (negative self-evaluation), and is therefore less predictive of antisocial behavior than the more morally relevant emotion of guilt. Additionally, fewer chips were placed on embarrassment than on the other moral emotions, although this tendency increased with age. Perhaps adolescents are just more likely to report guilt in moral situations that elicit negative emotions. As they get older, adolescents may become better at recognizing all of the negative emotions that they

might experience and, more specifically, may become more skilled at distinguishing between guilt and embarrassment.

When looking at the overall emotion ratings participants made when asked to average across all emotions they anticipated in a situation, it was found that self-reported antisocial behavior was positively associated with ratings for scenarios in which a moral norm is disregarded (i.e. an immoral behavior is enacted) but was not associated with ratings for situations in which moral norms are followed. Thus, participants who anticipated a more positive overall emotional experience following an antisocial act reported engaging in higher levels of antisocial behavior. Levels of self-reported antisocial behavior were not, however, related to the overall emotional experiences that participants anticipated following a prosocial or moral act. The present results, therefore, do not confirm the hypothesis that both positive and negative moral emotion expectancies would predict levels of antisocial behavior. Instead, it appears that behavior in immoral situations is associated with emotion expectancies in these types of situations specifically, and is not associated with the emotional experiences anticipated when a moral norm is regarded.

The fact that overall emotion ratings were predictive of antisocial behavior despite only one specific emotion variable being significantly related to this measure (as was generally the case with the other variables in this research) makes intuitive sense. An individual's behavior will likely be more closely associated with the overall valence of the emotional experience he or she anticipates following a certain behavior (i.e. positive or negative) rather than any specific emotion. For example, even if a person expects to feel high levels of guilt following an action, if he or she anticipates that the happiness of

obtaining a desired outcome will outweigh the guilt then behaviors that transgress norms may be more likely.

This pattern found throughout the data, that overall emotion expectancies predict behavior better than any specific emotion, suggests that self-evaluative moral emotion expectancies are not as closely related to behavior in moral contexts as originally hypothesized. Instead, basic emotions such as happiness and sadness seem just as important in predicting moral action. The overall emotion ratings do have moral qualities, but they include other emotions as well. Therefore, it seems that while at least some self-evaluative moral emotions do have associations with moral behavior, they do not stand out against other basic emotions. It is the overall emotional tone anticipated in a moral situation that is important.

Using these overall ratings, it was demonstrated that the overall emotional experience participants anticipated after transgressing a moral norm was associated with the number of times they reported engaging in norm transgressions. One interpretation of this finding is that the overall emotion expectancies people have when contemplating an antisocial action may influence their decision to engage in that behavior. For example, if they expect that they will overall feel positively after that action, then they will probably be more likely to choose to enact that behavior. The participants' emotion expectancies following the enactment of a moral behavior, however, were not associated with their self-reported levels of antisocial behavior. This suggests that whether participants expect to feel positively or negatively following a norm-regarding action has no relation to their decisions when presented with an opportunity to transgress a moral rule.

The interpretation of these results as demonstrating a causal influence of moral emotion expectancies on antisocial behavior outcomes is consistent with the existing research in this area, outlined previously. However, as these results were obtained using correlational analyses, it could also be the case that it is the act of engaging in antisocial actions which influences later moral emotion expectancies. Individuals who engage in high levels of antisocial actions may come to expect lower levels of negative self-evaluative emotions following these behaviors because these types of actions come to be viewed as normal activities. In all likelihood, a bi-directional relationship exists, with moral emotion expectancies and antisocial behavior each having an effect on the other. Hence, it seems likely that, although moral emotion expectancies can not be inferred as causing the levels of antisocial behavior measured in the present research, these emotion expectancies would influence future decisions when presented with an opportunity to transgress moral norms.

These results found using self-reported measures of antisocial behavior were not replicated with the behavioral measure taken in the sample of university participants. When the university participants were overpaid for their participation, the measure of whether or not they reported this error was not related to their moral emotion expectancies. One reason for this may be that the moral emotion expectancy variables in the present study were comprised of emotion expectancies across multiple situations and, thus, may simply be better predictive of generalized behavior patterns than any specific behavior. When looking at the two specific vignettes relevant to the behavioral antisocial measure, overall emotion ratings approached significance as a predictor for one of these

vignettes. Thus, even the behavioral assessment with the university sample provided some evidence that overall emotion expectancies are related to antisocial actions.

The lack of association between the behavioral measure of antisocial behavior and the emotion variables could also be explained by a methodological issue. This behavioral assessment always occurred after participants had completed the interview and questionnaire sections of the study. Presenting the tasks in this order was required by the nature of the behavioral assessment (based around compensation for participation) but it may be the case that participating in an interview which forces individuals to contemplate moral issues and respond to a questionnaire inquiring about the self-importance of moral values counteracted effects that would have otherwise been observed. Contemplating moral issues and dilemmas may have influenced the way that many of the participants behaved and perhaps the results would have been different had the behavioral assessment taken place at a different time.

#### *Moral Emotion Expectancies and Prosocial Behavior*

The second hypothesis was that both positive and negative moral emotion expectancies would be associated with levels of prosocial behavior. The little research previously existing on the relationship between moral emotions expectancies and prosocial behavior had looked at young children, but it was hypothesized that moral emotion expectancies would contribute to adolescent moral behavior in a similar way to immoral behavior. When examining the four individual moral emotion expectancies, however, only expectations of embarrassment were significantly correlated with self-reported prosocial behavior. Participants who expected to feel more embarrassment after transgressing a moral norm reported higher levels of prosocial behavior. Thus, we found

that the two negative moral emotion expectancies of guilt and embarrassment were associated with self-reported behavior (antisocial and prosocial, respectively) but the positive moral emotion expectancies of pride and satisfaction were not found to relate to behavior in the same way. These findings suggest that negative emotion expectancies have a closer relationship with instances of moral behavior than expectations of positive emotions. One implication of this could be that the expectation of negative affect provides a strong motivation to avoid engaging in a particular behavior, while the expectation of positive affect following a response appears to be less inspiring.

Similar to the analyses involving antisocial behavior, the overall emotion ratings appeared to be better predictive of self-reported prosocial behavior than any one specific emotion variable. Specifically, overall emotion ratings for scenarios in which a moral rule is regarded were positively correlated with levels of prosocial behavior. Overall emotion ratings for scenarios in which a moral norm was disregarded, however, were not associated with prosocial behavior levels. Thus, it appears that the relationship between moral emotion expectancies and moral behavior is specific to the type of action in question. Expecting to feel negatively after transgressing a moral norm is associated with levels of norm transgressions but not prosocial actions; and similarly, expecting to feel positively after adhering to moral norms is associated with levels of prosocial behavior and not antisocial actions.

Contrary to the results involving self-reported prosocial behavior, no relationship was observed between the moral emotion expectancy variables and whether participants in the university sample were willing to donate money to a charity. Unlike the analyses involving the behavioral assessment of antisocial behavior, there was also no significant

relationship between charitable behavior and either of the overall emotion expectancies for the two situations specifically involving donating money to a charity. One explanation for this may be that this behavioral measure does not represent a valid assessment of an individual's tendency towards prosocial action. Whether participants donated money or not, and the amount of money they donated, were not significantly related to the measure of self-reported prosocial behavior used in the study. This suggests that donation behavior, as measured in the current study, did not provide an accurate depiction of participants' generalized prosocial tendencies. Additionally, the association between self-reported prosocial behavior and the overall emotion expectancy variables was much weaker than the association between self-reported antisocial behavior and the overall emotion expectancy variables. Emotion expectancies may just have a weaker association with prosocial behavior which was not able to be observed in this size of a sample.

*Relationships among Moral Emotions, Moral Behavior, and the Moral Self*

An additional goal of this research was to compare the association between moral emotion expectancies and moral action to the association between the moral self and moral action. This research suggests that the best predictor of behavior depends on the type of action in question (see Figure 2). The results suggest that antisocial behavior is predicted by overall emotion expectancies, such that individuals who expect to feel more negatively after transgressing a moral norm are less likely to engage in antisocial activities than individuals who do not expect these negative emotions. Prosocial behavior, on the other hand, appears to be predicted by the self-importance of moral traits, with individuals who consider moral characteristics integral to their sense of self reporting

more prosocial activities than individuals for whom moral characteristics are less self-important.

The different patterns found when predicting antisocial and prosocial behaviors are supported by the results of various research findings. To begin with, the majority of research demonstrating a link between the moral self and moral behavior has focused on prosocial activities as the outcome measure (e.g. Arnold, 1993; Colby & Damon, 1995) whereas most research indicating an association between moral emotions and moral behavior has focused on antisocial activities (e.g. Arsensio et al., 2004; Lochman & Dodge, 1994). Perhaps this pattern in the research is indicative of a real difference in the factors that influence prosocial versus antisocial behaviors. In line with this idea, Arnold (1993) demonstrated that the effect of moral judgment on prosocial behavior was moderated by moral self-relevance. When Barriga et al. (2001) attempted to replicate this moderated relationship with antisocial behavior as the outcome measure, no significant effects were found. Thus, it appears that the importance of moral values and traits to the self has a significant association with prosocial action but does not have a similar relationship with engagement in antisocial behaviors.

One explanation for the relative lack of influence moral emotion expectancies were shown to have on prosocial behavior is that these actions may result more from a sense of social obligation, whereas antisocial behaviors may involve more of a cost-benefit analyses of potential consequences. When presented with an opportunity to adhere to a moral norm, if there is no compelling reason not to act in a prosocial manner then people may feel obligated to do "the right thing." In terms of emotional consequences, there is not likely to be too many negative emotional consequences to this

type of behavior. When deciding whether or not to act in an antisocial way, however, doing the morally right thing often results in denying oneself a desired object or outcome, so this requires an individual to weigh the benefits of engaging in the behavior against abstaining from the behavior, and this is when emotion expectancies may come into play.

Interestingly, this idea leads to one possibility of how the moral self, emotion expectancies, and behavior all relate. Perhaps when presented with the opportunity to act in a moral fashion, individuals with strong moral self-relevance feel obligated to behave prosocially in order to maintain consistency with their sense of self; or, as exemplified by the example presented above, prosocial responses may be automatic for individuals with strong moral identities, requiring little thought regarding how to act. If this is the case, it may be that moral emotion expectancies are only associated with prosocial behavior when individuals have less developed moral selves. Prosocial actions may be instinctual for those with high moral self-relevance, but for those with lower moral self-relevance, acting prosocially is not the only behavioral option available so emotional consequences are able to influence the response that is chosen. This possibility then leads to the question of why moral identities do not have the same association in antisocial situations, that is, why individuals with high moral self-relevance do not have an automatic response to avoid temptations to transgress but are instead influenced by their emotion expectancies. One explanation could be that opportunities to act prosocially elicit less intense emotion expectancies. Therefore, while the emotions in prosocial situations are not strong enough to overpower automatic reactions, the more intense emotion expectancies in antisocial situations might be enough to cause self-inconsistent behavior.

A second explanation for the lack of association between moral emotion expectancies and prosocial action in the present results is that prosocial behavior may be associated with moral emotions that were not investigated in the present research. In the current study we focused specifically on self-evaluative moral emotions, to the exclusion of other-oriented moral emotions like empathy and sympathy. Indeed, previous research has demonstrated a positive relationship between feelings of empathy and levels of prosocial behavior (for reviews, see Carlo, 2005, and Eisenberg, Fabes, & Spinrad, 2006). Leffel et al. (2008) also argue that sympathy/compassion represents a moral emotion that motivates altruistic behavior. Thus, it may simply be that antisocial behaviors are associated with self-oriented moral emotions while prosocial behaviors are associated with other-oriented emotions. In the case of other-oriented emotions, however, it is the actual experience of these emotions that motivates action rather than the expectation of this emotion as a consequence of the behavior. In fact, the other-oriented emotions of empathy and compassion could also contribute to the avoidance of antisocial behaviors. For example, a person who feels compassion for a person whose property he or she is about to vandalize may decide not to continue with this course of action. Future research in this area is required to determine the validity of this idea.

Although a significant body of research has demonstrated a link between the tendency to experience empathy and levels of prosocial behavior, previous research examining the relative contributions of the moral self and empathy to prosocial behavior has shown moral self measures to be a superior predictor. Hardy (2006) demonstrated that in the prediction of prosocial behavior across various situations, the self-importance of moral characteristics explained a significant amount of variance above that accounted

for by moral reasoning and empathy. Thus, even when considering other-oriented moral emotions in addition to the self-evaluative moral emotions investigated in the present research it appears that the moral self may in fact be more closely related to prosocial behavior than emotions. Similarly, not all research examining associations between other-oriented moral emotions and prosocial activities has found a significant relationship. Monroe (1991) found no difference in the empathy experienced by individuals high in altruism (rescuers and heroes) and a comparison group. Therefore, it seems that empathy and sympathy are insufficient in explaining voluntary moral action and the moral self appears to be a necessary explanatory component.

Based on this, one interpretation is that individual's moral selves are impervious to the emotional consequences that are anticipated when prosocial actions are performed. The question then remains, however, as to why this is not the case for antisocial situations. Why might emotion expectancies overpower the moral self to dictate behavior? The answer to this question may lie in the nature of the emotions elicited by the two types of situations investigated in this research. In norm-disregarded scenarios, overall emotion expectancies could fall anywhere along a bipolar scale. Negative self-evaluative emotions are likely to be elicited by these types of situations, but equally likely are positive outcome-oriented emotions (e.g. happiness) in response to obtaining a desired result. As such, some individuals might feel extremely negatively in these situations, some may feel quite positively, and others may expect to feel somewhat ambivalent about the situation.

On the other hand, emotion expectancies in norm-regarded scenarios will essentially fall only along the positive end of the scale. Behavior that conforms to the

morally appropriate way to act in a situation can also be expected to elicit self-evaluative and outcome-oriented emotions, but in this case both types of emotion expectancies will be positive in nature. Moral norm-regarding actions can elicit positive self-evaluative emotions like pride because individuals feel positively about themselves for “doing the right thing.” These behaviors can also elicit positive outcome-oriented emotions because individuals feel emotions like happiness for the people who they helped or how the situation turned out. Although negative outcome-oriented emotions could also be anticipated in these situations (e.g. feeling sad that you donated the money you had planned to spend on a trip) these are not as prominent as the positive outcome-oriented expectancies. In this way, emotion expectancies in norm-disregarded scenarios cover a broader range of possible emotional consequences which may explain why these expectancies predict antisocial behavior to a greater degree than positive emotion expectancies predict prosocial behavior. There is simply more room for individual difference in the emotional consequences anticipated in response to norm-disregarded situations than in response to norm-regarded situations. Additionally, in some norm-regarded situations there is simply no action taken. The individuals simply refrain from transgressing a moral convention. They are not doing something bad, but they are also not actively engaging in a prosocial behavior. Thus, it is not unlikely that some people simply feel neutral, or do not expect any emotional reaction, in this type of scenario because no behavior is taking place. In this way, norm-regarded situations can again be seen as eliciting a narrower range of emotion expectancies and allowing less room for individual differences to be seen. As such, it makes sense that the moral self would be a better predictor of behavior in these situations. Indeed, in this sample, overall emotion

ratings for norm-disregarded scenarios did have a greater range and standard deviation than overall emotion ratings for regarded scenarios, although this difference was slight.

The fact that emotion expectancies in norm-disregarded situations fall along a bipolar scale highlights the importance of positive outcome-oriented emotion expectancies in norm-disregarded scenarios. In fact, outcome-oriented emotions may play a larger role in determining moral behavior than self-evaluative emotions. Clearly, emotion regulation plays a role in situations where an individual is tempted to transgress a moral norm, and if adolescents are not able to suppress these positive emotion expectancies then they may transgress and act in an immoral way. The inability to suppress positive emotion expectancies can then help explain why the moral self plays less of a role in predicting levels of antisocial behavior. In norm-regarded situations, however, it is much less likely that individuals will have to suppress negative emotion expectancies. Most people will expect to feel somewhere between neutral and very positively about themselves, so the moral self can be seen as an influential factor in the decision to engage in this type of action.

#### *Developmental Changes*

A final hypothesis under investigation was the idea that moral emotion expectancies would become more predictive of behavior with age. Our results demonstrate a few developmental changes, but not to the extent that was originally expected. One age difference was seen in expectations of pride, which were divergent for young males and females but then became more similar with age. This unexpected finding may simply reflect the fact that pride is a complex emotion which can not be accurately anticipated by the young participants in the study. Kornilaki and Chlouverakis

(2004) report that studies using hypothetical scenarios to assess pride attributions (as was used in the current research) show a later understanding of pride as compared to studies which require children to generate situations in which they had experienced pride. It is not until the age of 11 that individuals are able to distinguish between the situational antecedents of pride and happiness (Kornilaki & Chlouverakis, 2004). As participants in the youngest age group in the present study were between 11 and 12 years of age, poor understanding of the complexities of pride may be what resulted in pride ratings for this age group that differed from all older age groups. Further research on the positive moral emotions of adolescents is required to help explain this finding.

The primary developmental change of interest is the finding that age moderates the association between emotion expectancies and self-reported antisocial behavior. The results demonstrated an increasing influence of emotion expectancies on behavior with age. As individuals get older, their overall emotion expectancies for situations in which a moral norm is transgressed become increasingly predictive of their antisocial behavior levels. This finding suggests that as individuals progress through adolescence they put an increasing amount of weight into the emotional consequences of their behavior when presented with an opportunity to transgress moral norms. Perhaps emotion expectancies become more consistent and accurate with age and as a result adolescents increasingly rely on these expectancies to anticipate the consequences of their actions. Additionally, adolescents may become more likely to use their emotion expectancies to regulate their behavior as they mature.

At the outset, a primary goal was to examine the changes in moral emotion expectancies that occur across adolescence. Much less change was observed than was

expected. This could suggest that once moral emotion expectancies are formed in early to middle childhood there are few further developmental changes. These expectancies may simply represent an individual difference which is more closely tied to other variables, such as the social context, temperament, or cognitive factors, than development.

Murgatroyd and Robinson (1997) demonstrated that 30% of adults attributing emotions to wrongdoers fail to list any moral emotions, suggesting that for some individuals there may be little development in moral emotion expectancies across adolescence and adulthood. Nunner-Winkler's (2007) work on moral motivation demonstrated small increases in group means over adolescence and early adulthood, but large variations in individual trajectories, with some people showing increases and others decreases. A similar pattern may be found in the development of moral emotion expectancies, with multiple trajectories of development possible.

Although moral emotion expectancies may show little development in adolescence, during this time individuals may become more confident in their emotion expectancies and become more likely to use these expectancies to guide their behavior. This was demonstrated by the moderating effect of age found between emotion expectancies and antisocial behavior in the current research. Even if the expectancies themselves do not show a large amount of change, adolescence may represent a time during which individuals become more efficient and effective in both producing and using these anticipations. Clearly, further research is required in this area to explore the ways in which moral emotion expectancies develop and change across adolescence and to identify possible individual trajectories of development.

### *Conclusions*

The results of this research provide some evidence that moral emotion expectancies and their associations with behavior are still developing and changing in adolescence. While the majority of research in this area has focused on early and middle childhood, this research demonstrates that adolescence represents an additional age group of interest. Across adolescence, emotion expectancies become increasingly predictive of at least some types of behavior. Our findings also demonstrate that overall emotion expectancies predict behavior better than the expectancies of any individual emotions. Thus, although expectations of guilt are negatively associated with antisocial activities, the other emotions that an individual anticipates in that situation, such as happiness or satisfaction, also need to be taken into account to best predict behavioral outcomes.

Based on the previous literature base in this field, an interpretation of these results as demonstrating an influence of moral emotion expectancies on antisocial behavior and the moral self on prosocial behavior is favored. However, these associations may work in the opposite direction or, more likely, reciprocal relationships exist in these sets of variables. When adolescents frequently enact antisocial actions their moral emotion expectancies will likely be affected. These emotion expectancies will then influence future instances of moral transgressions. Similarly, engaging in high levels of prosocial behavior will probably influence how people view themselves and the values they view as important to their sense of self. This self-view will then have reciprocal influence on their subsequent moral behavior. Hence, although causal relationships can not be inferred in the present research, it seems likely that emotion expectancies could influence future decisions when presented with an opportunity to transgress moral norms and, similarly, adolescents' moral selves could influence future decisions to follow moral conventions.

The fact that the moral self was found to be more predictive of prosocial behavior than moral emotion expectancies can likely be attributed to the narrow range of emotional consequences that can be anticipated in these situations. Antisocial behavior, on the other hand, is better predicted by emotion expectancies than the moral self and this may be due to the broad range of emotional consequences possible in norm-disregarded situations. Positive outcome-oriented emotion expectancies could clearly represent a powerful influence over behavior in these situations if they can not be regulated by the individual.

In a practical sense, these findings also suggest that efforts to reduce antisocial behaviors in adolescents should take a divergent course of action from those aimed at increasing prosocial actions. Interventions with the goal of decreasing antisocial activities should focus on training adolescents to make negative self-evaluations following immoral actions. Socialization efforts aimed at heightening awareness of the negative self-evaluations that occur following a moral transgression appear to be one method of reducing antisocial behavior that could prove successful. A greater awareness of the negative emotional consequences resulting from antisocial actions appears to be important. Increasing the occurrence of prosocial actions among adolescents, however, will require more of a focus on value internalization. Programs which help adolescents to integrate moral traits and characteristics into their sense of self and increase their moral self-relevance should prove effective based on the findings of the present research.

#### *Limitations*

The findings of our research are limited in a number of ways. First and foremost, the majority of the results are based on self-reported assessments of behavior which may

not represent a reliable measure of actual levels of behavior. Especially when considering the nature of the behavior being reported (i.e. immoral and socially undesirable actions such as stealing and cheating), it seems possible that participants may not have been completely truthful, whether consciously or not. We attempted to address this concern by including a sample of participants whose actual behavior was observed. Unfortunately, this manipulation did not produce the expected results. It may be, however, that these behavioral measures were simply too narrow as a measure of the behavioral tendencies of an individual. Future research should assess a variety of observable behaviors to obtain an overall picture of levels of prosocial and antisocial behavior.

The behavioral measures observed in the university sample were also limited by the fact that these assessments always occurred after participants had completed the interview and questionnaire sections of the study. This ordering was required by the nature of the behavioral assessments but it may be the case that participating in an interview which forces individuals to contemplate moral issues and responding to a questionnaire inquiring about the self-importance of moral values influenced how participants behaved. Moral values and concerns were likely primed for these participants and this could have resulted in different data than would have been obtained had these measures been taken on a different day. Although individuals with a strong moral identity could be expected to act in a moral way in most situations, perhaps participants with weaker moral identities, who do not always act in a moral way, were influenced by the interview to act in a moral way. This may explain why the data obtained with the behavioral measures did not produce the same results as the self-report data. Clearly, further research is required to discover behavioral assessments which provide an accurate

picture of individuals' moral behavior and to further explore how measures of actual behavior relate to self-reports.

Additionally, moral emotion expectancies were operationalized as the emotions that participants anticipated in response to hypothetical scenarios. It may be the case that the emotion expectancies elicited in response to real situations differ in some ways from those elicited by hypothetical scenarios. Similarly, when asked to anticipate the emotions they would experience in a situation, social scripts may have an influence on individuals' reported personal reactions. Adolescents likely know that they would be expected to feel guilt and other negative emotions following an action like stealing and so this emotional script may affect the emotional consequences they anticipate in a situation. However, previous studies using similar methodologies have determined that scenario measures appear to provide valid assessments of self-evaluative emotion expectancies and experiences (Ferguson & Crowley, 1997; Tangney, 1996), so the emotion expectancy scores obtained in the present study are assumed to be reasonably valid. Additionally, it can be assumed that these social scripts would influence participants in a uniform manner and would, therefore, not invalidate the present results. The individual differences in moral emotion expectancies observed in the data also highlight the fact that adolescents do differ in their emotion expectancies and are not relying on social scripts when reporting their anticipated emotional reactions.

A final limitation of the study surrounds the self-evaluative moral emotion expectancy scores obtained through the chip ratings. These variables had low reliability coefficients (Cronbach's alphas range from .56 to .62) suggesting that there may be a problem with these ratings. One reason for the low reliability scores may be that the

emotion expectancies are obtained using scenarios that vary in the types of situations and behaviors they describe, thus eliciting different types of emotional reactions. Reliability coefficients for the raw chip ratings were much higher than the proportion scores that were used in the present data analyses (e.g. Cronbach's alpha of .77 for pride and .87 for guilt). However, university participants, as a group, used a much larger number of chips than the younger participants ( $M = 133$  chips for university students across 18 scenarios versus  $M = 99, 88,$  and  $94$  for grade 7s, 9s, and 11s, respectively). Thus, it was necessary to use proportion scores which resulted in lower reliability ratings for the emotion expectancy variables.

#### *Future Directions*

Future research in this area is required to replicate the pattern found in the current data showing moral self scores as stronger predictors of prosocial action than emotions but the opposite pattern when predicting antisocial behavior. Additionally, research should continue on with the goal of demonstrating these relationships using assessments of actual behaviors as the outcome measures. The significance of these results, obtained with self-reports, will be lessened if they can not be demonstrated when actual behavior is used as the dependent variable. Future research should also continue to explore the nature of possible relationships among moral emotion expectancies, the moral self, and moral behavior by examining whether emotions might represent a mediator in the relationship between the moral self and moral actions. The present findings suggest that, at least for antisocial behaviors, a mediating relationship may be possible. Tracy and Robins (2004) argue that self-conscious emotions are elicited through appraisals of

identity-goal relevance, suggesting that moral emotion expectancies may be, in part, determined by the moral self. Further research is required to explore this possibility.

Further studies are also needed to help explain why the present pattern of results exists. Why do emotions overpower the association of the moral self in the case of antisocial behavior, but not prosocial action? Including measures of cognitive factors may help to explain these findings. It could be that antisocial actions are easier to rationalize or justify to oneself whereas the failure to help a person in need may be seen as more reflective of the self and harder to explain away. Additionally, empirical investigation of the idea that emotion regulation plays a role in the importance of moral emotion expectancies in predicting antisocial action is required. The ability to suppress positive outcome-oriented emotion expectancies when presented with an opportunity to transgress a moral rule should be further explored for its ability to account for the lesser role played the moral self in antisocial, as opposed to prosocial, behavior.

Additionally, the relationships among positive emotion expectancies, the moral self, and prosocial behavior should be explored in younger age groups. Although we found the moral self to be a superior predictor of behavior, this may not be the case in a younger sample. Before adolescence, identities are less developed and consolidated and, thus, likely have less influence on behavior. Perhaps in younger children emotion variables have a similar influence over prosocial actions as they do over antisocial actions and it is only once moral identities develop that they gain control over prosocial behavior. Further research with younger participants is required to explore this possibility.

Finally, it is important for behavioral interventions to take findings such as these into consideration to maximize effectiveness. Programs focusing on value internalization

may succeed in developing an adolescent's moral self and may also increase their prosocial activities, but if reducing antisocial behavior is the intention, this type of program may not prove useful. Clearly, the experience of negative emotions following moral transgressions is important in preventing this type of action, but the suppression of positive outcome-oriented expectations may also prove to be crucial in decreasing the presence of antisocial behavior. Research should focus on determining how to increase awareness of the negative emotional consequences that can result from moral norm transgressions in order to reduce antisocial activity among adolescents. Along the same lines, the ability to regulate positive emotion expectancies in relation to antisocial activities appears to be crucial for decreasing the prevalence of these activities.

#### *Summary*

With this study, previous research on moral emotion expectancies in childhood was extended upon to investigate moral emotion expectancies and moral behavior in adolescence. Self-evaluative moral emotion expectancies were shown to have associations with antisocial and prosocial behavior, but it was the overall emotion ratings that were most closely associated with behavior. Thus, moral emotions do not appear to stand out against other, more basic emotions when predicting moral action. These overall ratings are associated with self-reported levels of antisocial behavior while moral self scores are better predictors of self-reported prosocial behavior. This finding highlights the importance of positive outcome-oriented emotions in antisocial contexts. An inability to regulate these positive emotions may be one factor leading to immoral behavior. Further research in this area will help determine the importance of this kind of emotion regulation

and should also explore in more depth the relationships among emotions, moral action, and the moral self.

Table 1

## Descriptive Statistics by Age Group for All Measures

	Age Group			
	Grade 7	Grade 9	Grade 11	University
Emotion Variables				
Pride				
Mean (SD)	2.88 (1.58)	2.78 (1.55)	2.38 (1.37)	2.36 (1.14)
Range	.00 – 7.05	.00 – 6.50	.00 – 6.00	.50 – 5.33
Satisfaction				
Mean (SD)	1.79 (1.34)	1.95 (1.29)	2.08 (1.14)	2.2 (1.36)
Range	.00 – 5.00	.00 – 4.33	.00 – 4.93	.50 – 5.60
Guilt				
Mean (SD)	4.81 (1.46)	5.06 (1.65)	4.82 (1.61)	5.41 (1.55)
Range	1.25 – 7.87	1.98 – 8.80	.60 – 8.10	1.21 – 8.91
Embarrassment				
Mean (SD)	.49 (.66)	.39 (.57)	.56 (.76)	.79 (.82)
Range	.00 – 2.50	.00 – 2.70	.00 – 2.67	.00 – 3.40
Overall Disregarded				
Mean (SD)	21.55 (6.81)	20.92 (4.66)	23.24 (6.32)	21.18 (6.14)
Range	10.00 – 44.00	10.00 – 30.00	11.00 – 44.00	11.00 – 46.00
Overall Regarded				

Mean (SD)	50.34 (5.76)	49.33 (7.15)	47.96 (5.51)	48.66 (5.09)
Range	37.00 – 60.00	31.00 – 62.00	35.00 – 58.00	37.00 – 59.00

## Behavior Variables

## Prosocial Behavior

Mean (SD)	13.79 (4.95)	14.25 (5.26)	14.37 (4.98)	15.02 (5.59)
Range	4.00 – 26.00	2.00 – 25.00	.00 – 26.00	2.00 – 26.00

## Antisocial Behavior

Mean (SD)	4.21 (5.88)	5.06 (5.47)	5.81 (5.51)	7.92 (6.18)
Range	.00 – 26.00	.00 – 26.00	.00 – 27.00	1.00 – 38.00

## Moral Self Variables

## Moral Trait Sum

Mean (SD)	31.31 (5.21)	31.02 (4.46)	31.28 (4.38)	32.14 (4.30)
Range	18.00 – 40.00	22.00 – 40.00	17.00 – 39.00	20.00 – 39.00

## Non-Moral Trait Sum

Mean (SD)	28.54 (4.51)	26.92 (4.40)	27.63 (3.97)	27.92 (4.51)
Range	20.00 – 38.00	17.00 – 35.00	19.00 – 37.00	18.00 – 38.00

## Standardized Residual

Mean (SD)	-.16 (1.12)	-.08 (.95)	-.08 (1.02)	.09 (.94)
Range	-2.82 – 1.77	-1.96 – 1.86	-3.14 – 1.89	-2.43 – 2.16

## Social Desirability

Mean (SD)	9.21 (3.53)	8.40 (3.15)	8.07 (2.51)	7.50 (3.33)
Range	1.00 – 17.00	2.00 – 16.00	3.00 – 13.00	1.00 – 15.00

Table 2

## Correlation of Each Emotion with Overall Disregarded Ratings

Emotion	Correlation with Overall Rating
Happy	.593**
Satisfied	.396**
Proud	.252**
Sad	-.243**
Scared	-.043
Angry	-.196**
Guilty	-.238**
Embarrassed	-.121

Note: \*\* means the correlation is significant at the 0.01 level

N = 200

Table 3

## Correlation of Each Emotion with Overall Regarded Ratings

Emotion	Correlation with Overall Rating
Happy	.296**
Satisfied	.047
Proud	.402**
Sad	-.346**
Scared	-.239**
Angry	-.392**
Guilty	-.412**
Embarrassed	-.237**

Note: \*\* means the correlation is significant at the 0.01 level

N = 199

Table 4

Correlations among Moral Behavior, Moral Self, and Emotion Variables

	Behavior		Overall Emotions		Moral Self
	Prosocial	Antisocial	Regarded	Disregarded	Self-Importance
<hr/>					
Behavior					
Prosocial	1				
Antisocial	-.005	1			
<hr/>					
Emotions					
Regarded	.157*	-.022	1		
Disregarded	-.117	.335**	-.261**	1	
<hr/>					
Moral Self					
Trait Self-Importance	.235**	-.215**	.301**	-.460**	1

Table 5

## Regressions Predicting Self-Reported Prosocial Behavior

	Predictor	Standardized Beta	<i>t</i>	Sig.
a)	emotion ratings (regarded)	.075	1.009	.314
	emotion ratings (disregarded)	-.002	-.020	.984
	moral self score	.209	2.561	.011
-----				
b)	age	.082	1.172	.243
	gender	.076	1.076	.283
	social desirability	.057	.790	.430
	moral self score	.207	2.912	.004

Table 6

## Regressions Predicting Self-Reported Antisocial Behavior

	Predictor	Standardized Beta	<i>t</i>	Sig.
a)	emotion ratings (regarded)	.105	1.451	.148
	emotion ratings (disregarded)	.314	4.029	.000
	moral self score	-.101	-1.285	.200
-----				
b)	age	.151	2.419	.016
	gender	-.126	-2.018	.045
	social desirability	-.316	-4.956	.000
	emotion ratings (disregarded)	.260	4.159	.000

Table 7

## Age as a Moderator in Regression Predicting Self-Reported Prosocial Behavior

Model	Predictor	Standardized Beta	<i>t</i>	Sig.
1.	moral self	.232	3.378	.001
	age	.059	.856	.393
-----				
2.	moral self	.172	1.805	.073
	age	.062	.906	.366
	moral self * age	.086	.908	.365

Table 8

## Age as a Moderator in Regression Predicting Self-Reported Antisocial Behavior

Model	Predictor	Standardized Beta	<i>t</i>	Sig.
1.	overall ratings (disregarded)	.321	4.816	.000
	age	.163	2.443	.015
-----				
2.	overall ratings (disregarded)	.130	1.330	.185
	age	-.457	-1.860	.064
	overall ratings (disregarded) * age	.686	2.617	.010

Figure 1

Relationships among Moral Emotion Expectancies, the Moral Self, and Moral Behavior

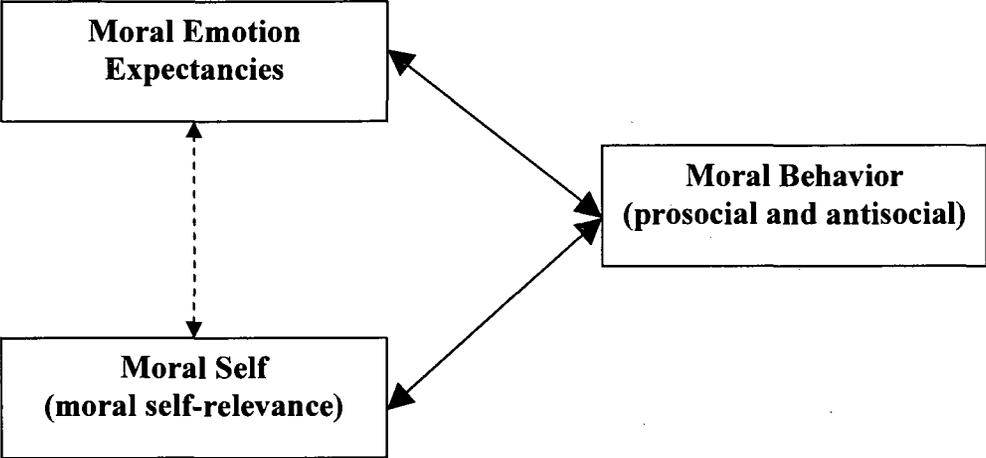
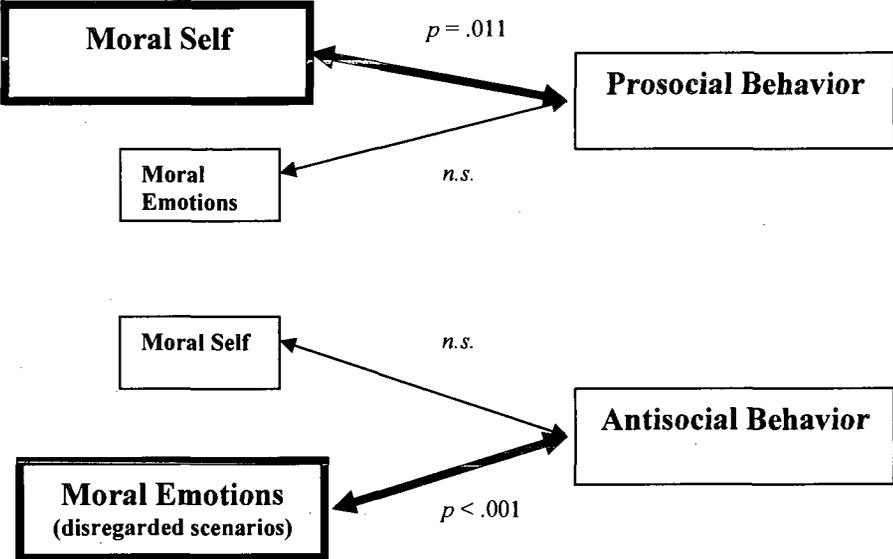


Figure 2

*Associations of Moral Emotions and the Moral Self with Moral Behavior*



## Appendix A

## Interview Scenarios

1. While you are lining up at the bus stop you notice a pickpocket quickly drawing a wallet out of another person's bag. The pickpocket is about to jump on the arriving bus. You wonder whether you should stop him. As it turns out, you don't do anything. So, the pickpocket gets on the bus and drives away leaving the victim behind.
2. While you are strolling through a flea market you notice somebody stealing a valuable object from one of the sales booths. You wonder whether you should disclose this to the vendor. So you do, and the vendor immediately goes to pursue the thief.
3. Some students from your school ask you to donate money for charity. You think that they really pursue a good cause. Still you decide not to give them anything because you need all your money for a trip you want to do with your friends over the next weekend.
4. Somebody in your neighborhood collects money for the needy. One day she knocks at your door. You think that this charity campaign really makes a difference. Therefore, you give her some money even though you already had made plans how to spend it.
5. While you are strolling through a thrift store, you see a tiny thing you really would like to have. However, you cannot afford it. In a moment, when nobody is observing you, you take the object, put it in your bag and leave the store without paying.
6. Imagine you go for a swim in the public swimming pool. In the dressing area you pass by an open locker with a very nice jacket hanging inside. It's a kind of jacket you always wanted to have but you could never afford. Apparently, somebody forgot this jacket as nobody is around. For a moment you think about taking the jacket and putting it into your locker. But then you decide otherwise. So, you go and leave the jacket where it is.
7. While you are riding the bus you notice a group of youngsters in the back bullying another kid. They call him names and push and pull him around. The bus driver is obviously too busy to realize what is happening. Other passengers seem to ignore it. You are wondering whether you should go to the bus driver and tell him what's going on. In this moment, the bus arrives at your destination. So, you step out and go on your way.
8. Imagine there is a group of youngsters who want to beat up another student. They want to take revenge on her because she blew the whistle on them for some graffiti they sprayed in the school building. Accidentally, you get notice of their plan. You wonder whether you should warn the other student so that she can take measures to protect herself. So, you do. As a consequence, nothing happens to the other student.

9. Imagine you are on the way to your friend's home. While you are riding your bike, you notice another biker on the other side of the road crashing into a barrier and falling off the bike. It looks like she really hurt herself. You are late and you don't want to lose time. So you pass by without stopping.
10. Imagine as you come to a bus stop you find an elderly person sitting on the bench and gasping for breath. Obviously, the person is not doing well and needs medical help. With your cell phone you call an ambulance. You want to make sure that the elderly person is safe until the ambulance arrives. At the same time, you know if you don't catch the next bus you will miss your train. When the next bus comes to the stop you let it drive past.
11. Imagine you are in a big crowd of teenagers waiting at the entrance of a music store. There is a lottery draw for 10 brand-new I-pods starting soon inside. Obviously, not all people standing outside will fit into the store. While you are approaching the entrance, the manager of the store gets ready to close the door. It looks like a little boy just in front of you will be the last person who will be allowed to enter the store. The manager still is busy with the door. So you push the boy away and jump the queue without being noticed by others. As a consequence, you are allowed to take part in the lottery.
12. Imagine, one day you were waiting in a line to see your favorite musical group. There was just one youngster ahead of you when you heard the ticket seller say there is only one ticket left. The ticket seller was in a small booth and couldn't see out very well. When the ticket seller turned around to answer the phone, you easily could have knocked down the one person ahead of you to get the last ticket. For a moment you consider this but then you decide not to do it. So, the person in front of you gets the last ticket whereas you have to stay out.
13. Imagine you notice how one student cheated in an exam by copying from another student. The teacher realized that the two exams look very similar. However, he cannot tell who copied from whom. So, he says he will assign both students an F unless one of the two confesses that she had cheated. Both students swear that they did not cheat. You wonder whether you should tell the teacher the truth. It turns out that you don't do anything. At the next class meeting the teacher tells both students that they failed the exam.
14. Imagine, in school there were a bunch of graffiti on the bathroom wall. The principal is convinced that one student who did similar things in the past is responsible for the graffiti. He wants to punish him. However, you know better. You go to the principal and tell him that you actually saw another student who did it. The principal promises not to say who gave him this information, so you tell him the student's name. As a consequence, the other student who actually sprayed the graffiti got detention and had to wash the bathroom walls.

15. One day, your teacher comes into class and tells the students that she lost her notebook including many addresses, phone-numbers and other important data. She asks everybody to look around and to tell her when the notebook shows up somewhere. As it happened, the day before you saw the teacher's notebook lying at a hidden place. You wonder whether you should disclose this information to your teacher. Eventually, you decide not to do it. So, you sit in class and keep your knowledge for yourself.
16. At the end of a school day, one of your classmates with whom you don't get along at all, realizes that she has lost her keys. Since her parents are away for the full day she won't be able to go home before school closes in the evening. She asks everybody in class whether they saw her keys. As it happened, around lunchtime you saw a bunch of key lying in a corner of the hallway. You tell this the student. She runs away to pick up her keys.
17. Imagine that you have an upcoming exam in your math class that you are unprepared for. A classmate tells you that he has found a folder with all the questions that will be on the exam and the correct answers lying near the school entrance. Apparently, the teacher had it lost it there. He offers to let you make a copy of the answers for yourself. You know that you don't have enough time to study all the information before the exam so you decide to copy the answers and memorize them before the test.
18. It is the end of the school year and you have a big project that you have to hand in tomorrow but you are having trouble getting started. Your older brother had to do the same assignment the year before and he got a really good grade on the project he handed in. Your brother still has his assignment and he offers to let you take it, put your name on it, and hand it in. You wonder if you should do it. In the end, you decide to do your own work and you stay up all night finishing your project.

## Appendix B

## Self-Reported Antisocial Behavior Items

- Skipped a full day of school without a real excuse.
- Used public transportation (bus, train) without paying the fare.
- Taken something worth more than \$5 from a store without paying.
- Tried to get access to an event (e.g. movie, concert) without paying.
- Taken a vehicle without the owner's permission.
- Deliberately littered the street or pavement by smashing bottles, tipping over garbage bins or something similar.
- Intentionally damaged or destroyed people's private property.
- Got into a physical fight at school.
- Smashed, slashed, or damaged things in public spaces (e.g. streets, trains, buses).
- Attacked someone with the idea of seriously hurting them.
- Used force to get money or things from someone else.
- Written on walls in public spaces with spray paint or markers.
- Drunk alcohol whilst not at home and not in a pub, e.g. in a park.
- Driven a vehicle without having a proper license.
- Stolen money from slot machines, juke boxes, or public telephones.
- Failed to return other people's belongings.
- Bought or sold things that were stolen.
- Stayed away from home at least for one night without telling my parents.
- Tried to get money by lying to someone (e.g. to a cashier).
- Used a back card without permission.

Appendix C

Self-Reported Prosocial Behavior Items

Visited or helped out people who were sick.

Took care of other families' children (on an unpaid basis).

Participated in or helped a charity organization.

Led or helped out with a children's group or club.

Helped with a fundraising project.

Gave help (ex. Money, food, clothing, rides) to friends or classmates who need it.

Helped people who were new to your community.

Gave money to a cause.

Volunteered with a community service organization.

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