

FAMILY AND LIFE STRESSORS PREDICT ADOLESCENTS'
SOCIAL BEHAVIORS VIA PARENTING AND MORAL IDENTITY

A Dissertation
presented to
the Faculty of the Graduate School
at the University of Missouri-Columbia

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

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MAY 2016

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FAMILY AND LIFE STRESSORS PREDICT ADOLESCENTS' SOCIAL BEHAVIORS VIA PARENTING AND MORAL IDENTITY

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Professor Duane Rudy

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Acknowledgements

There were a number of people who were instrumental in assisting me with this project. First, I would like to thank my primary advisor, Dr. Gustavo Carlo. Dr. Carlo was supportive of my ideas and helped me throughout this entire process. I would also like to thank the other members of my committee: Drs. Duane Rudy, Sarah Killoren, and Christi Bergin. I am so appreciative for the constructive comments and support I received from my committee throughout this process.

I would also like to recognize the administrators and teachers who allowed me to collect data from adolescents in their schools. Lynn Davis was particularly helpful in the data collection process, and I am so grateful for her support and assistance.

Finally, I would like to thank members of my lab who helped me in various ways throughout the process. Cara Streit was instrumental in data collection, editing, and brainstorming ideas. She was a great help throughout this entire process. I would also like to thank Deidra Bibbs for her help transcribing interviews.

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Abstract

The goal of the current studies was to examine the associations between family-level stressors and low-income adolescents' social behaviors. Previous theory and research has suggested that stress can be emotionally and cognitively debilitating and lead to lower levels of positive social behaviors, such as helping behaviors (Lazarus & Folkman, 1984). Alternatively, theorists have suggested that traumatic stressors may foster emotional sensitivity and ultimately contribute to higher levels of moral behaviors (Staub, 2007). In order to better understand the associations between stressors and adolescents' moral behaviors, two studies were conducted. Study 1 was a mixed-methods study of adolescents from Camden, NJ and St. Joseph, MO (Camden: $n = 19$, M age = 15.38, 72.2% girls; St. Joseph: $n = 15$, M age = 16.27, 65.5 % girls). The results demonstrated complex associations between stressors and adolescents' moral identity.

Study 2 extended study 1 by examining the associations between economic stressors and life events and adolescents' prosocial and aggressive behaviors via parenting practices (use of social and material rewards) and adolescents' moral identity. The sample consisted of 198 adolescents from St. Joseph, MO (M age = 16.22, 34.8 % girls, 84.1 % White). The results demonstrated that stressors were differentially associated with parental rewards, which were in turn associated with social behaviors. Discussion will focus on the roles of parenting processes and moral identity in explaining links between stress and youth outcomes.

Ch. 1

Study 1 Conceptual Background

The impact of stress on adolescents' moral development is a topic of interest among scholars. Stress impacts physiology and system functions, which can lead to an array of negative health outcomes (Institute of Stress, 2014; Cohen et al., 2012). Therefore, stress is an important topic of study. Additionally, there are several forms of stress, including economic stress and major life events, which are relevant to many families in the United States (U.S.). In 2013, there were 4.5 million people living in poverty in the U.S. (US Census Bureau, 2014). Additionally, 19.9% of children in the U.S. were living in poverty in 2013 (US Census Bureau, 2014). With the large number of children and families living in poverty, it is important to understand how economic disadvantage contributes to stress experiences and youth outcomes. Another form of stress that impacts families is major negative life events, such as the death of a family member. It is important to understand how economic stress and life events contribute to well-being, including prosocial and moral outcomes, among families and youth.

There is growing interest in the associations between stress and moral outcomes. Stress may be associated with moral identity, which is one aspect of moral development of youth and adolescents. Moral identity is defined as the degree to which morality is central to an individual's sense of self (Aquino & Reed, 2002; Damon & Gregory, 1997; Hardy & Carlo, 2011). Additionally, moral identity is a distinct construct composed of previously studied components of moral development, such as moral cognitions and moral emotions. Scholars have suggested that moral identity develops from the interplay between moral emotions and moral cognitions (Blasi, 2004; see Hardy & Carlo, 2005). In

previous research examining moral conscience (moral identity), moral cognitions and moral emotions emerged as two distinct factors (Laible, Eye, & Carlo, 2008). Theorists argue that morality is rooted in moral cognitions and moral emotions, but moral principles must become integrated into the self-concept through development (Blasi, 2004). A strong moral identity also requires sophisticated self-regulatory skills (i.e., ability to control one's thoughts and behaviors; see Aquino & Reed, 2002) in order for the individual to maintain their moral values consistently (Blasi, 1984). Stress may negatively influence regulatory skills and impact the moral identity of adolescents. When considering the potential role of stress on moral identity, it is important to consider the mechanisms that account for such development. Moral internalization is a primary pathway through which youth develop moral identity.

The moral internalization model (Grusec & Goodnow, 1994) illustrates the specific role of parenting on the moral development of youth. Specifically, the moral internalization model asserts that parenting practices, particularly discipline practices during a child's transgressions, influence how a child perceives the parents' message. Parents who are clear, consistent, and provide support are more likely to have children who accurately perceive the intended message. Additionally, parents who respond to their child in a well-intentioned manner that fits with the child's characteristics and also attempt to promote empathy while allowing the child autonomy during the discipline process are more likely to have children who accept the parental message (Grusec & Goodnow, 1994). The child's accurate perception and acceptance, in turn, influence the child's internalization of moral principles. This is a useful model for explaining the role

of parenting and socialization in children's learning and internalization of moral values that ultimately influence their behaviors.

While it is clear that moral identity may be linked to moral behaviors, stressful experiences may also be important for moral development and moral behaviors. Although there are various stress and coping theories (see Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Selye, 1976), the perspective adopted here is Lazarus and Folkman's perspective (Lazarus & Folkman, 1984). Stressful experiences that are overwhelming can lead to maladjustment. However, stress that is moderate may promote resilience if the adolescent is able to cope effectively (Lazarus & Folkman, 1984). The stress and coping perspective suggests that there are characteristics of a stressful event that contribute to individuals' outcomes. For example, stressful events that cannot be controlled may contribute to higher levels of stress and negative affect than stress that results from experiences that the individual can change (Folkman, Lazarus, Gruen, & DeLongis, 1986). Therefore, the type of stress experienced may be an important factor in predicting adolescents' outcomes. Stressors that are chronic may influence adolescents in different ways than stressors that are discrete, and the intensity of the stressful events may also matter. Economic stress may be a chronic stressor that accumulates and influences families and adolescents continually over time, whereas life events may be discrete but produce more intense stress. Therefore, these family-level stressors may be differentially related to adolescents' moral outcomes because of the nature of the source of stress.

The *altruism born of suffering* notion proposes that discrete, traumatic events can foster emotional sensitivity and promote a selfless orientation and increased social

awareness and prosocial behaviors (Staub, 1997). The *altruism born of suffering* model suggests that victimization or traumatic stressful events promote interactions and identification with others experiencing similar stress and an awareness of others' stress and suffering. This awareness fosters empathy, which ultimately promotes altruistic behaviors aimed at reducing the suffering of others (Staub & Vollhardt, 2008). Research has demonstrated that observing another individual's pain activates similar areas of the brain as if the individual were experiencing the pain themselves, which supports the idea that observing the suffering of others may promote sensitivity to their suffering (Fitzgibbon, Giummarra, Georgiou-Karistianis, Enticott, & Bradshaw, 2010). While this model is useful for understanding how stress may foster prosocial behaviors, the majority of research examining the *altruism born of suffering* notion has been conducted with adults following major disasters. Therefore, the application of this model with adolescents is not quite clear. Additionally, the association between specific forms of stress and moral behaviors is not clear. In sum, the stress and coping model asserts that stress may be negatively associated with youth moral development, while the *altruism born of suffering* concept proposes that stress might be positively associated with moral behaviors. In order to better understand the associations between stress and moral identity, the current study examined two forms of stress (economic stress and life events) and adolescents' moral identity.

Ch. 2

Study 1 Literature Review

Stress and Moral Identity and Behaviors

Existing theoretical models assert that stress may be detrimental for adolescents or may in fact promote moral behaviors (Lazarus & Folkman, 1984; Staub, 1997). Stress may be detrimental for moral identity if the adolescent perceives the stress as threatening or if the stressful event debilitates coping mechanisms (Lazarus & Folkman, 1984). Stress may promote moral identity, however, if the adolescent perceives the stressful event as a challenge or if the stress promotes emotional sensitivity to others. Previous conceptual models suggest that stress may promote altruistic behavior (Staub, 1997), so it is possible that stress may also promote moral identity, which contributes to such behaviors.

Additionally, social relationships and environmental contexts surrounding adolescents influence their moral identity development (Hart & Matsuba, 2009). Children living in high poverty and dangerous neighborhoods are influenced by their experiences navigating these environments (Hart & Matsuba, 2009). Research has demonstrated that children are at risk for increases in behavior problems when they move into a high poverty neighborhood, and high poverty neighborhoods may be risk factors for youths' moral identity (Hart & Matsuba, 2009). However, the specific links between stressful experiences within these contexts and moral identity are not clear.

Although there is limited research on the associations between stress and moral identity, there is one study that is relevant. Hart and Fegley (1995) examined the moral identity of adolescents in Camden, NJ, who lived in high poverty. Community members from churches, youth organizations, and schools nominated adolescents who

demonstrated characteristics of care exemplars (willingness to help others, highly involved in bettering the community, commitment to others). A comparison group of adolescents who did not meet the criteria of care exemplars was also developed. The results demonstrated that when describing themselves, the care exemplars made more references to moral traits than the comparison group (Hart & Fegley, 1995). This study supports the notion that adolescents living in a high stress context can be care exemplars who have a strong moral identity and engage in positive behaviors in their community. However, this study did not directly assess the association between stress and moral identity. Therefore, it is not clear how perceptions of stressful experiences are associated with moral identity among adolescents. The current study helps extend the research by examining the associations between two specific forms of stress and moral identity in adolescents.

Study 1 Goals and Hypotheses

Adolescence is a time of development and transition, making it an important developmental period to study. Because of the increased brain development (i.e., increased development of the prefrontal cortex) and identity development during adolescence, stressful events may be particularly salient. During adolescence, individuals are exploring their identity and developing a complex sense of self (see Kroger, 2007). Therefore, stress may play a particularly influential role in moral development during this developmental period. The proposed study will help disentangle the mixed conceptual arguments for the associations between stress and moral identity by examining the associations between two forms of stress and adolescents' moral identity in adolescents

from two geographic regions of the U.S. using survey and interview methods (see Figure 1).

Hypothesis 1: Family-level stress (economic stress and life events) will be positively or not associated with adolescents' moral identity.

Hypothesis 2: Given the lack of research on specific forms of stress, we will explore whether the relations between economic stress and life events are differentially related to moral identity.

Ch. 3

Study 1 Research Design and Methods

Study Design

Study 1 is a mixed-methods pilot study that allowed the researchers to examine the associations between stress and moral identity using interviews and survey data. For study 1, adolescents were recruited from the Rutgers Future Scholars program in Camden, NJ. The Future Scholars program is an intervention program through Rutgers University that accepts academic first-generation, low-income students who demonstrate academic potential the summer before 8th grade. The students selected for the program participate from 8th grade through their senior year of high school. The median income of Camden, NJ was \$24,681 in 2012. Camden is 49.6% Hispanic, 42.8% African American, and 4.1% White (City Data, 2012). All adolescents, ages 14-18, who were enrolled in the program were targeted for the current study. The researcher attended multiple Rutgers Future Scholars meetings and presented the study information. Recruitment letters and parental consent forms were sent home with all adolescents. Additionally, the researcher attended a parent meeting and explained the study to the parents. Consent forms were

available for parents to sign or take home. Any adolescent who returned the parent consent form (to their teacher or to the researcher) were eligible to participate in the study. The final sample consisted of 19 adolescents (72.2% female; 33.3% Latino, 70.6% African American, and 11.1% European American). The average age was 15.38 (range = 13-19 years). The majority of the participants' mothers had graduated high school (55.6%), while 16.7% had attended some college.

Adolescents were also recruited from a public high school in St. Joseph, MO. The community as a whole has a median income of \$42,248, and 18.4% of residents live below the U.S. poverty threshold. The racial make-up of the community is 87.8% White, 6% Black, and 6% Hispanic (Census, 2013). Approximately 60% of the students in the district are enrolled in the free and reduced lunch program (DESE, 2014). Students enrolled in the fine arts department and home economics classes of the targeted high school were eligible to participate in the current study. The researcher presented information regarding the study to multiple art and home economics classes at the school. Parental consent forms were sent home with all students. Any student who returned the consent form was eligible to participate in the study. Data was collected across 4 days during class. Adolescents who were not participating in the study were allowed to work on homework. The final sample consisted of 202 adolescents (65.5% female; 10.3% Latino, 4.9% African American, and 84.2% European American). Only 15 adolescents completed the qualitative interview, however. The average age was 16.27 (range = 14-19 years). There was a wide distribution in mothers' education: some high school (9.4%), graduated high school (31.2%), some college (23.3%), and college (21.3%).

Adolescents at both sites completed self-report measures of family-stress (economic stress and major life events). Adolescents also completed a semi-structured interview regarding salient aspects of their identity. Adolescents received doughnuts and were entered into a raffle (chance to win one of four gift cards) following data collection at each site. Study 1 allowed the researchers to examine the associations between stress and moral identity using survey data and semi-structured interviews.

Measures

Economic stress. Adolescents completed measures of objective and subjective economic strain (Conger et al., 1992). The adolescents completed eight items assessing subjective economic stress. A sample item is, “There is no money left over to do something fun as a family.” The adolescents rated the items on how often they occurred in the last six months from 0 = *Not at all* to 3 = *Almost every day*. There were five items used to assess objective economic stress. These items included questions about parental job loss and how many people live in the house. The scales were combined to create an economic stress score (Chronbach’s alpha for Camden sample = .83; Chronbach’s alpha for St. Joseph sample = .90). This scale has been used in diverse samples of adolescents and has demonstrated good reliability (Chronbach’s alpha example = .66-.82) and convergent validity (e.g., Morrison Gutman, McLoyd, & Tokoyawa, 2005; Yoder & Hoyt, 2005). All measures can be found in Appendix A-I.

Life events. Adolescents also completed a 22-item measure (Chronbach’s alpha for Camden sample = .94; Chronbach’s alpha for St. Joseph sample = .89) of their life events (Adolescent Perceived Events Scale-Short; Compas, Davis, Forsythe, & Wagner, 1987). The Perceived Events Scale is a checklist of major life events. The adolescent

rated each event that has happened to them in the past six months on how negatively or positively they perceived the event. Items include: “death of a relative”, “arrest of a family member”, and “parents getting divorced”. This measure has been previously used to measure life events in high school students and has demonstrated good reliability (Chronbach’s alpha example = .70-.86; e.g., Compas, Howell, Phares, Williams, & Giunta, 1989; Newcomb & Harlow, 1986).

Moral identity interview. Semi-structured interviews (adapted from Hart & Fegley, 1995) were also conducted with the adolescents in Camden and with a subset of adolescents in St. Joseph (15 adolescents). The interviews consisted of questions regarding aspects of identity. The interviews were coded for moral and prosocial themes: moral emotions, moral cognitions, and moral behaviors. All participants were asked the same core questions, with follow-up questions if necessary. An undergraduate research assistant who was blind to the purpose of the study coded each interview. A subset of interviews was double coded, and inter-rater reliability was over 95%. Each response was given a score of 0 = *no moral theme* or 1 = *moral theme*. The adolescents were given a total score based on how many of their responses included an aspect of moral identity. A sample question from the interview is, “What kind of person are you?” The high moral identity group consisted of 10 adolescents who scored a 4, 5, or 6 on the interview. Thirteen adolescents with a score of 0, 1, or 2 made up the low moral identity group. See Table 1 for examples of interview responses.

The participants in Camden completed the measures in the following order: demographics, prosocial tendencies, economic stress, life events, empathic concern and perspective taking, moral convictions, aggression, prosocial moral reasoning, and

material and social rewards. Not all of these measures were part of study 1, however. Prior to data collection in St. Joseph, the researcher revisited the order of the measures and made adjustments in an attempt to reduce priming effects that might influence the results. The participants in St. Joseph completed the measures in the following order: demographics, prosocial moral reasoning, prosocial tendencies, material and social rewards, economic stress, life events, empathic concern and perspective taking, moral convictions, and aggression. Additionally, participants from both locations completed additional measures as part of a larger survey packet. The additional measures assessed numerous aspects of adolescents' lives and personal characteristics, such as peer affiliation, coping skills, and parenting styles. The researcher attempted to balance the order of negative and positive items throughout the survey packet.

Ch. 4

Study 1 Results

In order to examine group differences in perceptions of stress, independent *t*-test analyses were conducted to examine differences in the reports of economic stress and life events between the Camden and St. Joseph samples. The results demonstrated that there were no differences between adolescents from St. Joseph ($M = 1.08, SD = .80$) and adolescents from Camden ($M = .94, SD = .72$) in reports of economic stress [$t(19) = .41, p = .68$], but adolescents from Camden ($M = .50, SD = .36$) reported significantly more life events than adolescents from St. Joseph [$M = .24, SD = .19; t(19) = -2.17, p = .04$]. Therefore, the results are presented separately for the two samples. Because of the small sample size, the results are also presented collapsed across the two samples. First, bivariate correlations were examined for the associations between life events, economic

stress, and group membership (high moral identity vs. low moral identity; see Table 2).

There were no significant correlations between the variables for the Camden or St. Joseph samples. However, there were two moderate effect sizes that should be considered (effect size greater than .30). The effect size for the correlation between economic stress and moral identity was .31 for the St. Joseph sample, such that adolescents with high moral identity also reported greater economic stress. For the Camden sample, the correlation between life events and moral identity was -.36, such that adolescents with lower moral identity reported more life events.

Independent *t*-test analyses were then conducted to examine whether there were differences in reported stressful experiences for the moral identity (high vs. low) groups (see Table 3). For the Camden sample, the reports of life events between the low moral identity group ($M = .57$, $SD = .61$) and the high moral identity group ($M = .47$, $SD = .14$) were not significantly different [$t(5) = .29$, $p = .78$]. The reports of economic stress between the low moral identity group ($M = .70$, $SD = .46$) and the high moral identity group ($M = 1.12$, $SD = .90$) were also not significantly different [$t(5) = -.72$, $p = .50$]. For the St. Joseph sample, the reports of life events between the low moral identity group ($M = .29$, $SD = .07$) and the high moral identity group ($M = .15$, $SD = .11$) were not significantly different [$t(12) = 1.35$, $p = .20$]. The reports of economic stress between the low moral identity group ($M = 1.15$, $SD = .27$) and the high moral identity group ($M = .96$, $SD = .87$) were also not significantly different [$t(12) = .41$, $p = .69$]. When the two samples were collapsed, the results showed similar non-significant mean level differences.

Ch. 5

Study 1 Discussion

The goal of the current study was to further the literature on the associations between stressors and moral outcomes. This is the first study to directly examine the associations between perceptions of stress and moral identity among adolescents. Previous research has demonstrated that children living in poverty often act as moral exemplars in their communities (Hart & Fegley, 1995), but no studies have examined the direct associations between family-level stressors and adolescents' moral identity. Scholars have argued that chronic stressors might debilitate youth's emotional and cognitive resources, ultimately leading to lower levels of interpersonal behaviors that require suppression of one's own wants, such as prosocial behaviors (see Lazarus & Folkman, 1984). Alternatively, scholars have also suggested that stressors, particularly traumatic events, may contribute to emotional sensitivity and a desire to help others who are suffering (Staub, 1997). The goal of the present study was to examine the associations between economic stress, life events, and adolescents' moral identity in order to better understand how stress might be associated with moral outcomes.

The results demonstrated that moral identity was not statistically significantly associated with reports of life events or economic stress for either sample at the $p < .05$ level, although the results were trending in the correct direction. Because of the small sample size, beta coefficients that are considered moderate in strength (.23; see Weinfurt, 2000) are considered potentially meaningful as these coefficients may be significant with a larger sample. Specifically, the correlation for the associations between economic stress and moral identity for the St. Joseph sample was moderate and positive, such that

adolescents with higher moral identity reported greater economic stress. The correlation between life events and moral identity for the Camden sample was also moderate and negative such that adolescents low in moral identity reported more life events. The results reveal a complicated pattern of findings that partially supports prior theory. Stressors that are chronic, such as economic stress, may foster emotional sensitivity and ultimately a care and concern for others (Staub & Vollhardt, 2008). Life events, however, were higher for the low moral identity group. It may be that these major life events debilitated youth's cognitive and emotional resources necessary to suppress one's own desires and focus on the needs of others (Lazarus & Folkman, 1984).

There were a number of study limitations that should be considered. The total sample size for this study was very small. Future research with larger samples might find significant results. Additionally, the interview was coded for basic moral themes. More in-depth coding might reveal information about perceptions of stress and morality that are not apparent in this quantitative analysis. For example, coding for more specific dimensions of morality, such as behaviors, cognitions, emotions, might yield more results.

While the Study 1 results were not statistically significant, the coefficients between stress and moral identity may be practically meaningful. Additionally, I plan to conduct more in-depth qualitative analyses in the future to further examine these links. Given the limited sample size, I conducted a second study to reexamine these relations in a larger sample of adolescents using quantitative measures of the constructs.

Ch. 6

Study 2 Conceptual Background

Previous scholars have suggested that stress is an important predictor of adolescents' behavioral adjustment (Conger et al., 1992; Lazarus & Folkman, 1984). It is important to understand how stressful experiences influence adolescents' social behaviors in order to better foster resilience and positive development in this population. Positive behaviors, such as helping others, are of particular interest. These positive behaviors are indicators of health and well-being and are also important for a flourishing society (see Randall & Wenner, 2014). Researchers should aim to reduce negative behaviors in youth while simultaneously fostering positive behaviors in order to promote a cooperative and helpful society.

The family stress model asserts that stressful experiences impact parents' psychological functioning, which results in reduced parenting quality and increased behavioral problems for youth (Conger et al., 1992). This model primarily considers the influence of stress on maternal depression, which results in more controlling, less warm parenting and increased levels of conflict within the family (Conger et al., 1992). Previous research examining the family stress model has predominately focused on the influence of economic strain on maternal psychological functioning, parenting, and ultimately, youth outcomes. This is a useful model for explaining how stress influences family processes that impact youth adjustment. One important extension of the family stress model is the examination of additional family-level stressors that may impact parents and youth. Another family-level stressor that may be particularly relevant is life events. It is also important to examine a variety of parenting constructs, including

specific parenting practices, in the associations between stress and adolescents' social behaviors. The studies proposed herein will contribute to the literature on family stress by examining the roles of economic stress and life events as predictors of adolescents' prosocial and aggressive behaviors via specific parenting practices and moral identity.

The moral internalization model (Grusec & Goodnow, 1994) illustrates the role of parenting on the moral development and moral behaviors of youth. Because this model highlights the role of parenting behaviors in fostering youth's internalization of moral values and ultimately moral behaviors (Grusec & Goodnow, 1994), it demonstrates the importance of considering parenting practices on adolescents' moral outcomes. The moral internalization model, however, focuses on parents' interactions with youth during discipline. The proposed study will examine the role of parenting practices in prosocial contexts, as opposed to transgressive contexts, in predicting both prosocial and aggressive behavioral outcomes. Parental responses and practices during prosocial contexts may be likely to influence moral development and prosocial behaviors because supporting youth positive behaviors may reinforce such behaviors and promote future helping.

The family stress model and moral internalization model each provide insight into aspects of family functioning when considering the role of stress on adolescents' social and moral behaviors. Based on the family-stress model and the moral internalization model, we developed an integrated model that examines the role of stress on youth moral behaviors via parenting practices and moral identity. Integrating these models will allow researchers to examine the associations among stress, parenting practices, adolescents' moral identity, and prosocial and aggressive behaviors to better understand the

mechanisms that account for the influence of specific forms of stress on adolescents' adjustment. The goal of the current studies was to examine this integrated model (see Figure 2). This integrated model addresses how two forms of stress (economic stress and life events) are associated with parenting practices that ultimately are associated with the moral development and moral behaviors of youth.

Ch. 7

Study 2 Literature Review

Stress and Moral Behaviors

Several forms of stress have been linked to youth outcomes, including economic stress and life events. A commonly studied framework that encompasses economic stress and life events is the family stress model (Conger et al., 1992). Economic stress, which refers to objective (e.g., employment status, income) and subjective (e.g., perceived financial strain), has been demonstrated to strongly predict parental mental health, parenting practices, family relationships, and subsequent youth outcomes. Economic stress has been indirectly and positively associated with aggression and internalizing symptoms via maternal affect and parenting styles/practices (Conger, Ge, Elder, Lorenz, & Simons, 1994; Gutman, McLoyd, & Tokoyawa, 2005; Parke et al., 2004). In a sample of rural adolescents, economic stress was associated with parents' depressive symptoms, which were positively associated with marital conflict. Marital conflict was also positively associated with parental hostility, which in turn was associated with adolescents' internalizing symptoms (Conger et al., 1994).

Economic pressure has also been linked to less control and maintenance of youth's behaviors via maternal depression (Mistry, Lowe, Benner, & Chien, 2008). In

another study of rural, Midwestern adolescents, economic stress was associated with fathers' negativity towards mothers. That negativity, in turn, was associated with irritable parenting (both fathers' and mothers' irritability), which was associated with adolescents' aggressive behaviors (Skinner, Elder, & Conger, 1992). There may also be gender differences in the impact of economic stress on parenting behaviors. Specifically, economic stress has been linked to lower perceived parental support for girls, which was associated with girls' psychological distress. Economic stress, however, did not influence the perceived parenting of adolescent boys (Lempers & Clark-Lempers, 1990). There is also longitudinal evidence for the associations between economic stress and externalizing problems (Takeuchi, Williams, & Adair, 1991; Williams, Conger, & Blozis, 2007).

The associations between economic stress and negative behaviors have been replicated in ethnic minority families as well. For instance, among African American families, economic stress was positively related to subjective economic pressure, which was positively related to parental distress. Parental distress was related to less nurturing parenting, which was related to higher levels of internalizing and externalizing behaviors among adolescents (Conger et al., 2002; Grant et al., 2000). Among Mexican American teen mothers, economic stress was positively associated with mothers' depressive symptoms and risky behaviors (Umaña-Taylor, Updegraff, & Gonzales-Backen, 2011).

While many studies have examined the family stress model, there is also direct evidence for the positive associations between economic stress and externalizing and problem behaviors (Guerra et al., 1995; Lempers & Lempers, 1990; Shek, 2005; Wadsworth & Compas, 2002). Economic stress has also been directly linked to internalizing behaviors in African American adolescents (Sanchez, Lambert, & Cooley-

Strickland, 2013). To date, most studies have tested the family stress model and its influence on youth maladjustment. In a recent exception, economic stress was indirectly and negatively associated with prosocial behaviors (Carlo, Padilla-Walker, & Day, 2011). Specifically, this study found that in a sample of majority European American adolescents, economic stress was positively associated with parental depression, which was negatively associated with parent-child connectedness. Connectedness, in turn, was positively associated with prosocial behaviors (Carlo et al., 2011). Additionally, economic stress has indirectly been negatively associated with other indicators of youth positive adjustment (academic performance and classroom behavior) and positively associated with youth externalizing behaviors in African American youth (Conger et al., 2002; Wadsworth & Compas, 2002). The present study is designed to examine the role of economic stress on multiple forms of adolescents' prosocial behaviors as well as aggressive behaviors.

Another contribution of the present study was the examination of life events (e.g., traumatic events and life transitions) as an additional component of family stress and the influence of life events on youth outcomes. Under conditions of neighborhood disadvantage, life events predicted aggressive behaviors over time in a sample of urban elementary youth (Attar, Guerra, & Tolan, 1994). Stressful life events have been associated with aggression and externalizing problem behaviors in adolescents (Guerra et al., 1995; McKnight, Huebner, & Suldo, 2002; Suldo & Huebner, 2004). In a sample of African American adolescents, life events that involved violence were particularly associated with higher levels of externalizing behaviors (Sanchez et al., 2013).

Moreover, life events have been linked to adolescents' aggressive behaviors (Kim, Conger, Elder, & Lorenz, 2003; Morales & Guerra, 2006) and delinquency over time (Hoffmann & Cerbone, 1999). One longitudinal study demonstrated that when adolescents responded to negative life events with anger, they were more likely to develop aggressive or delinquent behaviors than adolescents who responded to such events without anger (Aseltine, Gore, & Gordon, 2000). Therefore, adolescents' responses to stressful events may be important in predicting their behavioral outcomes. Additionally, both chronic and discrete negative life events have been associated with adolescents' externalizing behaviors (Masten, Neemann, & Andenas, 1994). Stressful life events have also been associated with other negative adjustment indices in youth, such as substance use (Scheier, Botvin, & Miller, 2000).

The literature has predominately focused on the negative consequences of stressful life events, but there is also research supporting the notion that traumatic, stressful events may produce care for others and positive social outreach (see Vollhardt, 2009). These altruistic acts can be seen in times of extreme trauma. One instance of such acts is individuals who risked their own lives to save the lives of others during the Holocaust in Germany (see Oliner, 2003). Qualitative research conducted with soldiers who have experienced combat demonstrated that after experiencing violence, soldiers often engaged in altruistic acts aimed at protecting the lives of other soldiers (Rachman, 1979). Additionally, phone interviews were conducted following the September 11th terrorist attacks with individuals across the US. Many people reported volunteering and donating blood to help those who had been directly impacted by the tragedy (Schuster et al., 2001). While there is evidence for the positive association between major life events

and altruistic behaviors, there is still limited direct research focusing on life events and positive behavioral outcomes among adolescents.

Gender Differences in Stress and Social Behaviors

In addition, it is important to consider potential gender differences when examining the influence of family-stress on prosocial and aggressive behaviors. Stress theories suggest that boys and girls may respond differently to stressful events (Taylor et al., 2000). Boys may be more likely to respond with a “fight or flight” mentality, whereas girls may be more likely to seek out social support and emotional closeness (Taylor et al., 2000). Based on this previous theorizing, girls may be more likely to respond to stress by engaging in prosocial behaviors because of the desire for human interaction. Boys, however, may tend to engage in aggressive behaviors or avoid contact with others (Taylor et al., 2000). Prior research has also consistently demonstrated gender differences in both prosocial and aggressive behaviors among adolescents. Specifically, in previous work examining prosocial behaviors, girls were more likely to report engaging in selfless and emotional forms of prosocial behaviors, while boys reported engaging in more public forms of prosocial behaviors (Carlo, Hausmann, Christiansen, & Randall, 2003). Gender differences in aggressive behaviors have also been well established. While boys tend to consistently report higher levels of all forms of aggression than girls (see Card, Stucky, Sawalani, & Little, 2008), there are also differences in the forms of aggressive behaviors that boys and girls are likely to engage in. Boys are often more likely to engage in overt forms of aggression, while girls tend to engage in relational forms of aggression (Card et al., 2008). Because of the established gender differences in prosocial and aggressive

behaviors, gender differences in the associations between stress and social behaviors will be examined.

Stress, Parenting Practices, and Moral Behaviors

Studies examining the family stress model typically examine parental psychological functioning (i.e., depressive symptoms) and parenting constructs as mediators in the associations between economic stress and social outcomes. Stress has been consistently associated with parenting styles and parental discipline (e.g., Conger et al., 2002; Conger et al., 1994; Gutman & Eccles, 1999). One study found that experiencing adversity in childhood negatively predicted warm parenting in adulthood in a sample of single African American mothers (Taylor, Larsen-Rife, Conger, Widaman, & Cutrona, 2010). However, examining specific parenting practices as opposed to broad styles or dimensions may be a useful alternative in order to understand how parenting behaviors are associated with adolescents' outcomes.

One specific parenting practice that may be important to consider is the use of rewards with adolescents. Two common rewards used by parents are material (e.g., money, prizes) and social (e.g., praise) rewards. Providing material rewards to youth may reduce their intrinsic motivation to engage in prosocial behaviors and therefore may be detrimental over time (Bénabou & Tirole, 2005). Providing social rewards, however, may foster positive parent-child relationships and encourage youth to engage in appropriate behaviors, thus reducing aggression and promoting prosocial behaviors. One study has demonstrated a positive link between social rewards and multiple forms of prosocial behaviors, and a negative link between material rewards and altruistic prosocial

behaviors. However, material rewards were also positively associated with other forms of prosocial behaviors (Carlo, McGinley, Hayes, Batenhorst, & Wilkinson, 2007).

Researchers do not necessarily agree that material rewards may be detrimental for future intrinsic social behaviors. Behaviorism suggests that any reward increases the likelihood that the behavior will be repeated in the future (Skinner, 1963). Currently, there are schools and therapists practicing the principles of behaviorism (including positive reinforcement using material rewards) with youth. These principles can be seen in numerous schools where teachers reward students with material prizes for their positive behaviors. There is some empirical evidence that disruptive behaviors can be reduced by token economies (the use of material rewards), however it is unclear whether these behavioral changes maintain over time and whether these material rewards lead to increases in prosocial behaviors (Filcheck, McNeil, Greco, & Bernard, 2004). Despite the controversy surrounding material rewards, they are a salient aspect of youths' lives. Therefore, rewards are of interest when examining the importance of parenting for adolescents' prosocial and aggressive behaviors.

However, stressful experiences may influence the degree to which parents rely on social and material rewards. Parents who are experiencing stress may be less likely to engage in social rewards because their cognitive and emotional resources are depleted, and they may not have enough energy left to allocate towards the use of social rewards, such as praise. Material rewards may provide a simpler and quicker alternative for parents who are experiencing stress. Parents who are experiencing high levels of economic stress may be less likely to use either type of reward, however, since they may not have sufficient resources to provide their children with material rewards. The link

between family stress and parental rewards has not been examined; however, there is evidence that stress influences other aspects of parenting. Family stress has been linked to less warmth and support, more hostile control, and disruption of the parent-child relationship (Conger et al., 2002; see Webster-Stratton, 1990). Therefore, family-level stress may also be an important predictor of parental rewards. The current study will extend the literature by examining the association between two types of family-level stress and parental use of material and social rewards with adolescents, as well as the associations between material and social rewards, moral identity, and prosocial and aggressive behaviors.

Parenting Practices and Moral Identity

One parenting strategy is the use of rewards to foster desired behaviors. Parents' use of material and social rewards may influence adolescents' moral identity. Conceptually, material rewards may foster a dependence on external factors, such as allowance or gifts, in order for adolescents to engage in prosocial behaviors. Material rewards, therefore, may reduce adolescents' moral identity, and promote a reliance on monetary rewards. As material rewards have been negatively linked to altruistic prosocial behaviors in previous work (Carlo et al., 2007), moral identity may be the mechanism through which material rewards influence prosocial behaviors. Social rewards, however, may foster adolescents' moral identity by promoting internal motivation to engage in positive behaviors. One study found that both social and material rewards differentially predicted prosocial behaviors both directly and indirectly, via sympathy (Carlo et al., 2007). This study suggests that social rewards may foster sympathy, which in turn may promote specific forms of prosocial behaviors. Sympathy is one component of moral

identity, demonstrating the importance of examining moral emotions in the associations between rewards and prosocial behaviors. There is also evidence that other parenting practices and dimensions influence moral identity in adolescents. Parental responsiveness, autonomy-granting, and demandingness have been positively associated with moral identity among adolescents (Hardy, Bhattacharjee, Reed, & Aquino, 2010). Another study using data from the National Longitudinal Survey of Youth demonstrated that parent-adolescent joint activities were associated with voluntary service, an indicator of moral identity, two years later (Hart, Atkins, & Ford, 1999). While research has examined the associations between aspects of parenting and moral identity, there is sparse research on the associations between material and social rewards and moral identity specifically.

Research has not yet examined the associations between parents' use of material and social rewards and aggressive behaviors. It may be that parents who use social rewards are promoting moral identity, and thus reducing adolescents' tendencies to engage in aggressive behaviors and promoting tendencies to engage in prosocial behaviors. The current study examined the association between material and social rewards and moral identity, which includes sympathy as well as moral cognitions (moral reasoning) and moral motivation (moral conviction), among adolescents.

Moral Identity and Moral Behaviors

Adolescents who have a strong moral identity view themselves as a moral individual and therefore may be more likely to engage in moral behaviors and avoid engaging in aggressive behaviors. Both moral cognitions and moral emotions were positively associated with adolescents' prosocial behaviors (Laible et al., 2008). Research

examining moral exemplars (individuals who are committed to prosociality and engage in high levels of moral action) has shown that individuals who engage in selfless moral action have effectively integrated morality into their self-concept (Colby & Damon, 1992). Research with adolescents living in urban areas has also found that adolescents who were nominated as moral exemplars for their prosocial behaviors were more likely to use moral descriptions when describing themselves, demonstrating the adolescent moral exemplars' strong moral identity (Hart & Fegley, 1995). These results demonstrate that when morality is central to an individual's identity, that individual may be more likely to engage in moral behaviors.

Moral cognitions and moral emotions, components of moral identity, have been consistently linked to prosocial behaviors. Specifically, moral reasoning has been positively associated with prosocial behaviors and negatively associated with aggressive behaviors (see Carlo, Koller, & Eisenberg, 1998; Carlo, Koller, Eisenberg, Da Silva, & Frohlich, 1996). Empathy and sympathy, components of moral identity, have also consistently been positively associated with prosocial behaviors (Carlo et al., 2007; Eisenberg, 2002; Malti, Gummerum, Keller, & Buchmann, 2009). One longitudinal study demonstrated positive links between perspective taking and sympathy, components of moral identity, and prosocial behaviors and negative links between perspective taking and sympathy and aggressive behaviors (Carlo, Mestre, Samper, Tur, & Armenta, 2010). This study demonstrated that moral cognitions and moral emotions are important predictors of adolescents' prosocial and aggressive behaviors.

Another potentially relevant aspect of moral identity is moral convictions (moral motivations; Skitka, Bauman, & Sargis, 2005). Individuals with strong moral convictions

feel passionate about specific moral behaviors that are consistent with their moral beliefs. Moral convictions have been linked to political participation and behaviors consistent with the individual's moral convictions (Skitka, 2010). Therefore, moral convictions may be relevant in predicting adolescents' prosocial and aggressive behaviors. The accumulation of research suggests that moral identity is an important predictor of adolescents' prosocial behaviors (see Hardy & Carlo, 2005). Therefore, moral identity will be included as a mediator in the relations between parental rewards and adolescents' prosocial and aggressive behaviors. For the present project we selected commonly examined aspects of moral cognitions (i.e., prosocial moral reasoning, perspective taking), moral emotions (i.e., empathy), and moral motivation (i.e., moral conviction).

Multidimensionality of Prosocial Behaviors

Recently, researchers have suggested that prosocial behaviors are complex and multidimensional and should not be examined as a unidimensional or global construct (see Padilla-Walker & Carlo, 2014). Carlo and Randall (2002) identified specific types of prosocial behaviors that are common among adolescents: altruistic, public, anonymous, emotional, dire, and compliant prosocial behaviors. Altruistic behaviors are actions that benefit others with no expected gain to the self. Helping behaviors done in the presence of others are referred to as public prosocial behaviors. Anonymous behaviors include actions conducted without the knowledge of others. Emotional prosocial behaviors are expressed in emotionally evocative situations, such as comforting another. Dire prosocial behaviors refer to helping in crisis situations. Finally, compliant prosocial behaviors include helping when directed, such as helping the family when asked (Carlo & Randall, 2002). Research has consistently supported these six forms of helping as distinct

constructs (see McGinley, Opal, Richaud, & Mesurado, 2014). Therefore, an additional purpose of the present study was to examine whether stress, parental rewards, and moral identity are differentially related to specific forms of prosocial behaviors.

Study 2 Goals and Hypotheses

The proposed study will further the research on the associations between stress and the social behaviors of adolescents. The current studies will address five main limitations in the current literature. First, there is a lack of research examining multiple forms of family-level stressors in combination on adolescents' outcomes. Second, the majority of the current research has examined negative developmental outcomes. The current studies examined the influence of family-stress on specific forms of adolescents' prosocial behaviors as well as aggressive behaviors. Third, there is a lack of examination of additional mediating processes, including moral identity, in the associations between stress and adolescents' outcomes. Fourth, there is a lack of studies examining specific parenting practices as opposed to general parenting styles in the associations between stress and youth outcomes. Finally, prosocial behaviors are often still examined as a unidimensional construct. The proposed studies will examine six different forms of prosocial behaviors that are common in adolescents.

Hypothesis 1: Family-level stress (economic stress and life events) will be positively associated with prosocial behaviors and negatively associated with aggressive behaviors.

Hypothesis 2: Family-level stress (economic stress and life events) will be positively associated with material rewards and negatively associated with social rewards.

Hypothesis 3: Family-level stress will be positively associated with moral identity.

Hypothesis 4: Material rewards will be negatively associated with moral identity.

Hypothesis 5: Social rewards will be positively associated with moral identity.

Hypothesis 6: Moral identity will be positively associated with prosocial behaviors. However, because public prosocial behaviors are often selfishly motivated (Carlo & Randall, 2002), moral identity will be negatively associated or not associated with such behaviors.

Hypothesis 7: Moral identity will be negatively associated with aggressive behaviors.

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Study 2 Research Design and Methods

Research Design

Study 2 was a cross-sectional study examining the proposed conceptual model: the associations among family-level stress (i.e., economic stress and life events) and prosocial and aggressive behaviors via parenting practices (material and social rewards) and moral identity (see Figure 2). Adolescents were recruited from the Rutgers Future Scholars program in Camden, New Jersey as well as a public high school in St. Joseph, Missouri. In New Jersey, all adolescents who were enrolled in the Rutgers Future Scholars (RFS) program were eligible to participate in the study. Adolescents were recruited at RFS meetings as well as parent meetings. Parental consent forms and recruitment letters were sent home to parents, and adolescents who returned the forms were asked if they would like to participate. Students completed the survey packet in a

lobby area when they were on lunch break and after classes. The final New Jersey sample consisted of 19 adolescents. All participating students were entered in a raffle, and four students won a gift card.

In Missouri, adolescents were recruited from the Fine Arts Department at a public high school. Parental consent forms and recruitment letters were sent home with all students who were in class. The students who returned their parental consent forms were eligible to participate in the study. Data was collected during classes at the high school. Students who were not participating were allowed to work on other homework. The final sample consisted of 198 (after removing 4 age outliers) adolescents (M age = 16.22; range = 14-18 years; 34.8% girls; 84.1% White). Adolescents reported on their mothers' education (9.1% some high school, 30.5% high school, 23.4% some college, 21.8% college). All participating students were entered in a raffle, and four students won a gift card. Students were also given donuts on the day of data collection. Because of the differences in reports of life events and the small sample size for the Camden sample ($t(19) = -2.17, p = .04$), only the St. Joseph sample was used for Study 2.

Measures

Economic stress. Adolescents completed the same measure as described in Study 1.

Life events. Adolescents completed the same measure as described in Study 1.

Parental rewards. Adolescents completed a measure of their parents' typical use of material and social rewards (Parenting Practices Measure; Calderón-Tena et al., 2011). The material rewards subscale consists of five items (Cronbach's alpha for Camden sample = .82; Cronbach's alpha for St. Joseph sample = .80). A sample item is, "Your

mother buys you a gift for doing something nice to someone.” The social rewards subscale consists of four items (Cronbach’s alpha for Camden sample = .83; Cronbach’s alpha for St. Joseph sample = .89). A sample item is, “Your mother praises you when you help someone in need.” Adolescents rated items on a five point scale from 1 = *Does not describe my parent well* to 5 = *Describes my parent very well*. The material and social rewards subscales were each mean scored into an observed variable. The Prosocial Practices Measure has demonstrated good reliability (Cronbach’s alpha example = .72-.76) when used with adolescents (Calderón-Tena et al., 2011).

Moral identity. Adolescents reported on their own prosocial moral reasoning (PROM; Carlo, Eisenberg, & Knight, 1992). The PROM assesses five types of moral reasoning. The participants read three stories and then made a moral decision regarding the character in the story. They then rated items on their importance when considering the moral action. Each item corresponds to a level of prosocial moral reasoning: hedonistic, approval, needs oriented, stereotyped, and internalized. Hedonistic reasoning is avoiding punishment and seeking positive outcomes. Approval reasoning is moral reasoning aimed at making others happy. Needs oriented reasoning is moral reasoning that is concerned with the psychological or physical needs of others. Stereotyped moral reasoning reflects reasoning based on stereotypic categories of right and wrong. Finally, internalized moral reasoning is reasoning based on moral principles. An example of an internalized reason is, “It depends whether Sandy [Tommy] thinks she’s [he’s] doing what she [he] believes she [he] should do”. For the current study, the internalized subscale (the highest level of moral reasoning) score was used as an indicator of moral cognition. Higher scores reflect higher levels of reasoning (Cronbach’s alpha for Camden sample = .65; Cronbach’s alpha

for St. Joseph sample = .59). The PROM has been used in numerous studies with adolescents and has demonstrated good reliability (Cronbach's alpha examples = .60-.85) and convergent and discriminant validity (Carlo et al., 1992; Carlo et al., 1996; Eisenberg et al., 2014; Shen, Carlo, & Knight, 2013).

Adolescents also reported on their perspective taking and empathic concern [Interpersonal Reactivity Index (IRI); Davis, 1983]. The perspective taking subscale consists of seven items (Cronbach's alpha for Camden sample = .69; Cronbach's alpha for St. Joseph sample = .53. A sample item is, "I try to look at everybody's side of a disagreement before I make a decision." Two items were reverse-coded, and these items did not load appropriately onto the same factor so they were dropped from the composite. The empathic concern subscale consists of seven items (Cronbach's alpha for Camden sample = .76; Cronbach's alpha for St. Joseph sample = .76). A sample item is, "I often have tender, concerned feelings for people less fortunate than me." Adolescents rated how well the statement describes themselves from 0 = *Does not describe me at all* to 5 = *Describes me perfectly*. The IRI has also been used with adolescent samples and has demonstrated good reliability (Cronbach's alpha example = .67-.87). Confirmatory factor analyses have also demonstrated that the factor structure of the IRI is consistent for adolescents in middle school and high school and adolescents from multiple cultural groups (Davis, 1983; Hawk et al., 2013; Tello, Egido, Carrasco, & Del Barrio Gandara, 2013). Adolescents also completed a measure of their moral motivations, or moral convictions (MC; Skitka et al., 2005). This measure assesses moral convictions surrounding both prosocial and aggressive behaviors and consists of eight items (Cronbach's alpha for Camden sample = .70; Cronbach's alpha for St. Joseph sample =

.77). A sample item is, “How much are your feelings about feeding a hungry person connected to your core moral beliefs or convictions?” Participants rated each item from 1 = *Not at all* to 5 = *Very much*. The Moral Conviction Measure has been used with adolescents and has demonstrated good reliability (Chronbach’s alpha example = .84; Skitka et al., 2005; Wright, Cullum, & Schwab, 2008).

Previous research has examined moral emotions and moral cognitions as distinct aspects of moral identity (Laible et al., 2008). The use of latent variables, however, reduces the error associated with observed variables and allows the researchers to examine the specific item loadings and model fit (χ^2 ; CFI; RMSEA) in order to validate the latent factor (Thompson, 2000). The moral conviction measure, however, did not load significantly on the hypothesized moral identity factor. An exploratory factor analysis was then conducted, and moral convictions loaded on a different factor than the other three indicators. Therefore, this measure was not included in the final latent factor. Perspective taking, empathic concern, and internalized moral reasoning loaded significantly on one factor (see Figure 3). The model fit for the latent factor was then examined. The model fit in SEM is considered good if the Comparative Fit Index (CFI) is .95 or greater (fit is adequate at .90 or greater), and the Root Mean Square Error of Approximation (RMSEA) is less than or equal to .06 (fit is adequate at .08 or less) and the χ^2/df ratio is less than 2 (Byrne, 2010; Hu & Bentler, 1999). Model fit was good, $\chi^2(1) = .57, p = .45$; CFI = 1.00; RMSEA = .000. An observed variable was then created using the factor loading scores as weights in order to reduce the number of paths in the model (Suhr, 2005).

Prosocial behaviors. Adolescents completed the Prosocial Tendencies Measure-Revised (PTM-R; Carlo et al., 2003), which assessed their tendency to engage in six types of prosocial behaviors. Adolescents rated items from 1 = *Does not describe me well* to 5 = *Describes me greatly*. Dire prosocial tendencies (3 items; Cronbach's alpha for Camden sample = .91; Cronbach's alpha for St. Joseph sample = .77) include helping others in emergency situations. A sample item is, "I tend to help people who are in real crisis or need." Emotional prosocial tendencies (5 items; Cronbach's alpha for Camden sample = .87; Cronbach's alpha for St. Joseph sample = .87) include any helping behaviors in emotionally evocative situations. A sample item is, "It makes me feel good when I can comfort someone who is really upset." Compliant prosocial tendencies (2 items; Cronbach's alpha for Camden sample = .51; Cronbach's alpha for St. Joseph sample = .77) include helping when asked. A sample item is, "I never wait to help others when they ask for it." Anonymous prosocial tendencies (4 items; Cronbach's alpha for Camden sample = .81; Cronbach's alpha for St. Joseph sample = .59) include helping without being identified. A sample item is, "I prefer to donate money without anyone knowing." Public prosocial tendencies (3 items; Cronbach's alpha for Camden sample = .70; Cronbach's alpha for St. Joseph sample = .64) include helping behaviors in the presence of others. A sample item is, "When other people are around, it is easier for me to help others in need." Altruistic prosocial tendencies (3 items; Cronbach's alpha for Camden sample = .85; Cronbach's alpha for St. Joseph sample = .74) refer to helping others when there is no benefit to the self. A reverse-scored sample item is, "I believe I should receive more rewards for the time and energy I spend on volunteer service." The PTM-R has demonstrated good internal reliability (Cronbach's alpha examples = .59-

.86), test-retest reliability, convergent validity, and discriminant validity (Carlo et al., 2003). For the current analyses, the public and altruistic subscales were examined as separate observed variables. Emotional, dire, and compliant prosocial behaviors are the most common forms of prosocial behaviors and often co-occur (see Carlo et al., 2003). A confirmatory factor analysis was conducted to examine emotional, dire, and compliant prosocial behaviors as a latent factor of helping. Fit for the model was good (Carlo et al., 2003). An observed variable of common prosocial behaviors was then created using the factor scores.

Aggressive behaviors. Adolescents also completed a 5-item measure of aggressive behaviors (Weinberger Adjustment Inventory-short version; Weinberger, 1991; Cronbach's alpha for Camden sample = .69; Cronbach's alpha for St. Joseph sample = .87). Participants rated items on how often they engaged in the behaviors from 1 = *Almost Never* to 5 = *Almost Always*. A sample item is, "If someone tries to hurt me, I make sure I get even with them." The items were mean scored to create an observed variable. In previous studies, the Weinberger Adjustment Inventory has shown good internal reliability (Chronbach's alpha example = .84-.91), test-retest reliability, discriminate validity, and convergent validity (Farrell & Sullivan, 2000; Weinberger, 1991).

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Study 2 Data Analysis and Results

Descriptives, Transformations, and Correlations

Preliminary analyses of the conceptual model (see Figure 3) were conducted using SPSS. Initially, the skew and kurtosis of each of the variables were examined to assess the normality of the distribution. The values must be between positive and

negative three for kurtosis and between positive and negative one for skew to be considered normally distributed (Tabachnick & Fidell, 2013). Some of the variables were skewed: public prosocial behaviors (Skewness = 1.92), perspective taking (Skewness = 1.88), and aggression (Skewness = 1.77). Square root transformations were conducted on the three skewed variables in order to adjust the skew (Tabachnick & Fidell, 2013). There were also some variables that were kurtotic: public prosocial behaviors (Kurtosis = 9.75) and perspective taking (Kurtosis = 13.64). Log transformations were conducted on these variables to adjust the kurtosis (Reist, 1985). Descriptive statistics (means and standard deviations) were also examined for each of the variables (see Table 4).

Bivariate correlations were conducted for all variables and are presented in a correlation table (see Table 4). The results demonstrated that economic stress was positively associated with life events and aggressive behaviors and was negatively associated with social rewards. Life events were positively associated with public prosocial behaviors and aggressive behaviors and negatively associated with social rewards and altruistic prosocial behaviors. Material rewards were positively associated with social rewards, perspective taking, public prosocial behaviors, and dire prosocial behaviors and negatively associated with altruistic prosocial behaviors. Social rewards were positively associated with perspective taking, empathic concern, public, emotional, and dire prosocial behaviors and negatively associated with aggressive behaviors. Perspective taking was positively associated with empathic concern, emotional, dire, and compliant prosocial behaviors. Empathic concern was positively associated with altruistic, emotional, dire, and compliant prosocial behaviors and negatively associated with aggressive behaviors. There were also interrelations among the prosocial behaviors

in the expected directions and altruistic prosocial behaviors were negatively correlated with aggression (no other forms of prosocial behaviors were significantly associated with aggression).

Data Analysis

The initially proposed model was a structural equation model consisting of life events and economic stress as observed predictors. Both life events and economic stress were expected to predict material and social rewards, which were expected to predict a latent factor of moral identity. Moral identity was expected to predict six forms of prosocial behaviors as well as aggressive behaviors, which were included as observed outcome variables. This model, however, did not converge. In order to reduce the number of parameters, two models were examined.

The first model (*public and altruistic model*) consisted of economic stress and life events as observed predictors. These predictors were set to influence parental use of material and social rewards (both observed variables), which were set to influence adolescents' moral identity (observed weighted variable). Moral identity, in turn, was set to influence public and altruistic prosocial behaviors (observed variables). Direct paths between the stressors and behavioral outcomes were included. Direct paths from stress to moral identity and direct paths from parental rewards to prosocial behaviors were included as well. The exogenous variables were allowed to correlate. Material and social rewards were also allowed to correlate. Additionally, public and altruistic prosocial behaviors were allowed to correlate. Mothers' education, adolescents' ethnicity, and adolescents' age were included as statistical controls. Mother's education is a proxy for socioeconomic status, which may be associated with adolescents' social behaviors, which

was why this variable was included as a statistical control. Because adolescents may not be able to adequately report their family income, we relied on reports of mother's education.

The second model (*Common prosocial behaviors and aggression model*) consisted of economic stress and life events as observed predictors. These predictors were set to influence parental use of material and social rewards (both observed variables), which were set to influence adolescents' moral identity (observed weighted variable). Moral identity, in turn, was set to influence common prosocial behaviors (observed, weighted variable) and aggressive behaviors (observed variable). For the common prosocial behaviors variable, direct, emotional, and compliant prosocial behaviors were combined (see Figure 4). These three forms of helping have been combined in previous research because they tend to be highly correlated and are common forms of helping behaviors among adolescents (see Calderón-Tena, Knight, & Carlo, 2011). Again, direct paths between stressors and behavioral outcomes were included. Direct paths from stress to moral identity and direct paths from parental rewards to social behaviors were included as well. The exogenous variables were allowed to correlate. Material and social rewards were also allowed to correlate. Additionally, prosocial and aggressive behaviors were allowed to correlate. Mothers' education, adolescents' ethnicity, and adolescents' age were entered as statistical controls.

A power analysis was conducted for Study 2 using G*Power software, which considers the error probability level (.05), the anticipated effect size (.30; considered moderate effect size in the social sciences; Cohen, 1992), and the study type. According

to this software, the lowest possible sample size is 145. Therefore the sample of 198 is adequate (power = .952; estimated using 5 predictors).

Structural Equation Modeling Results

Public and altruistic model results. Path analyses were conducted using maximum likelihood estimation in SPSS AMOS (Byrne, 2010) to examine the direct and indirect associations between family-stress and public and altruistic prosocial behaviors via parenting practices and moral identity. The model was analyzed with statistical controls (ethnicity, age, gender, and maternal education), and without statistical controls. Because statistical controls parcel out naturally occurring variability, it is important to examine the model without any controls (Becker, 2005). Results with and without controls are presented in the figure (see Figure 5). Fit for the overall model was good with and without controls: with controls: $\chi^2(25) = 43.38, p = .01$; CFI = .90; RMSEA = .06; without controls: $\chi^2(8) = 5.69, p = .68$; CFI = 1.00; RMSEA = .000.

For the model without statistical controls, the results demonstrated that life events were marginally and positively associated with material rewards and were not associated with social rewards. Economic stress was negatively associated with social rewards and was not associated with material rewards. Material rewards were not associated with moral identity, but were directly and negatively associated with altruistic prosocial behaviors and directly and positively associated with public prosocial behaviors. Social rewards were positively associated with moral identity. Moral identity, in turn, was marginally and positively associated with altruistic prosocial behaviors and was not associated with public prosocial behaviors. When including statistical controls, the coefficients were similar and in the same direction, but the effects were weaker.

Common prosocial behaviors and aggression model results. Path analyses were conducted using maximum likelihood estimation in SPSS AMOS (Byrne, 2010) to examine the direct and indirect associations between family-stress and common prosocial behaviors and aggressive behaviors via parenting practices and moral identity. The model was also analyzed with statistical controls (ethnicity, age, and maternal education), and without statistical controls. Fit for the overall model was good with and without controls: with controls: $\chi^2(22) = 38.20, p = .02$; CFI = .93; RMSEA = .06; without controls: $\chi^2(5) = 4.04, p = .54$; CFI = 1.00; RMSEA = .000.

For the model without statistical controls, the results demonstrated that economic stress was negatively associated with social rewards. Life events were marginally and positively associated with material rewards. Social rewards were positively associated with moral identity, while material rewards were not associated with moral identity. Material rewards, however, were directly and positively associated with aggressive behaviors. Moral identity was positively associated with prosocial behaviors and marginally and negatively associated with aggressive behaviors. When including statistical controls, the coefficients were similar and in the same direction, but the effects were weaker.

Moderation by Gender

In previous research on prosocial and aggressive behaviors, gender differences have been found (Carlo et al., 2003; Card et al., 2008); therefore, gender differences in the path models were also examined. To examine gender differences in the models, each path was constrained to be equal across the two groups (men and women). A chi-square difference test was conducted to examine whether the constrained and unconstrained

models were significantly different. For the *public and altruistic model*, the results demonstrated that the constrained model (CFI = .99; RMSEA = .03; $\chi^2(32) = 38.79, p = .19$) and the unconstrained model (CFI = 1.00; RMSEA = .000; $\chi^2(12) = 10.15, p = .60$) were not significantly different ($\Delta\chi^2(20) = 28.64, p = .10$). For the *common prosocial behaviors and aggression model*, the results demonstrated that the constrained model (CFI = 1.00; RMSEA = .03; $\chi^2(21) = 25.08, p = .24$) and the unconstrained model (CFI = 1.00; RMSEA = .02; $\chi^2(2) = 2.17, p = .34$) were not significantly different ($\Delta\chi^2(19) = 22.91, p = .24$). These results suggest that the models did not differ by gender, and therefore the results are reported for the whole sample.

Mediation Analyses

Bias-corrected bootstrap confidence intervals were used to test the significance of the mediational effects through depressive symptoms (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Partial mediation can be assumed if the confidence interval for the product of the two unstandardized paths (family-level stressors to social behavior) does not include zero. For the *public and altruistic model* results, the mediated path from life events to public prosocial behaviors was not significant (indirect effect = .05, 95% CI = -.01 to .09, $p = .20$). The mediated path from life events to altruistic prosocial behaviors was also not significant (indirect effect = -.05, 95% CI = -.10 to .01, $p = .13$). The mediated path from economic stress to public prosocial behaviors was not significant (indirect effect = .01, 95% CI = -.05 to .07, $p = .80$). The mediated path from economic stress to altruistic prosocial behaviors was also not significant (indirect effect = -.02, 95% CI = -.08 to .03, $p = .49$).

For the *common prosocial behaviors and aggression model*, the mediated path from life events to prosocial behaviors was not significant (indirect effect = .01, 95% CI = -.05 to .07, $p = .80$). The mediated path from life events to aggressive behaviors was not significant (indirect effect = .03, 95% CI = .00 to .08, $p = .10$). Additionally, the mediated path from economic stress to prosocial behaviors was not significant (indirect effect = -.04, 95% CI = -.09 to .01, $p = .11$). The mediated path from economic stress to aggressive behaviors was also not significant (indirect effect = .03, 95% CI = -.01 to .10, $p = .13$).

Ch. 10

Study 2 Discussion

The goal of the current study was to examine the associations between stressors and moral behaviors via parents' use of rewards and adolescents' moral identity. While adolescents' moral identity was not statistically associated with perceptions of stressors in Study 1, the trend level result for economic stress and the Study 1 limitations suggest that these links should be examined further. Therefore, Study 2 utilized a larger sample and quantitative data to investigate the proposed conceptual model. This is the first study to integrate two existing theories (the family stress model and the moral internalization model) in order to explain the associations between stress, parenting practices, and moral identity on adolescents' moral behaviors. Moreover, this study contributes to knowledge regarding the associations between two forms of family-level stress and adolescents' prosocial behaviors via specific parenting practices (material and social rewards) and adolescents' moral identity.

Family-level stressors differentially predicted parents' use of material and social rewards. As hypothesized, economic stress was negatively associated with social rewards. These results are consistent with previous research suggesting that family-level stressors are associated with parenting styles (Conger et al., 2002; see Webster-Stratton, 1990), however the findings extend research on stress and parenting by demonstrating that family-level stressors also impact parents' specific practices, particularly use of social rewards as reinforcers for their adolescents' desirable behaviors. Parents who are experiencing economic stress may become overwhelmed and depleted of cognitive and emotional resources (see Lazarus & Folkman, 1984) and ultimately may be less effective at rewarding their youth with praise and social interaction for engaging in prosocial behaviors. Economic stress, however, was not associated with material rewards. Material rewards, which may not require a substantial amount of money, may be a simpler alternative, and may be less impacted by perceptions of economic stress. Interestingly, life events were marginally and positively associated with material rewards, but were not associated with social rewards. While life events were not associated with social rewards in the same manner as economic stress, life events were marginally associated with higher usage of material rewards. These results suggest that economic stress and life events may differentially impact parenting practices. The nature of the stressors might account for these differences. Life events may be discrete, intense stressors that may be associated with parents' material rewards as a quick, simple reward option. Economic stress, however, may occur over a longer period of time and may contribute to parents' fatigue when rewarding adolescents, particularly with social interaction.

There were also links between parental rewards and moral identity. As hypothesized, social rewards were positively associated with moral identity. However, material rewards were not associated with moral identity. Consistent with prior research, it seems that providing social rewards after youth engage in prosocial behaviors may promote intrinsic motivation for helping others and contribute to a stronger sense of moral self (see Carlo et al., 2007). It may be that providing adolescents with material rewards is not enough to influence their moral self. This is consistent with motivation theories, which suggest that extrinsic motivation can still be agentic and lead to desired behaviors (Ryan & Deci, 2000). Therefore, while social rewards may foster moral identity, material rewards may not be significantly associated with moral identity. Future longitudinal designs are necessary to better understand how parents' use of specific forms of rewards influences moral identity over time and across specific developmental periods.

There were also direct, negative links between material rewards and altruistic behaviors. Consistent with previous theory (Bénabou & Tirole, 2005), it may be that material rewards do contribute to a reliance on external factors and materialism. This materialism and extrinsic motivation may ultimately contribute to a need to achieve one's own desires, which may result in more self-centered behaviors among adolescents. Adolescents who have a reliance on external rewards may not have internalized the desire to help others over one's self. These results could also be bidirectional. It may be that parents whose adolescents are not demonstrating selfless behaviors resort to material rewards in an attempt to increase positive behaviors. While material rewards may not be associated with moral identity, they may be directly associated with self-focused

behaviors ultimately suggesting that social rewards are a more positive parenting practice.

Moral identity, composed of internalized moral reasoning, perspective taking, and empathic concern, was also associated with social behaviors as expected. Specifically, moral identity was marginally and positively associated with altruistic prosocial behaviors and positively associated with common prosocial behaviors and marginally and negatively associated with aggressive behaviors. These findings are consistent with previous research demonstrating that moral cognitions and moral emotions, aspects of moral identity, are linked to higher levels of prosocial behaviors (see Carlo et al., 2008; Laible et al., 2008) and lower levels of aggressive behaviors (Carlo et al., 2010). When adolescents view themselves as a moral agent and morality is central to the adolescents' identity, prosocial behaviors may be consistent with the adolescents' values and aggressive behaviors may be inconsistent with such values. These results are consistent with theory suggesting that moral identity encompasses different dimensions (cognitions, emotions) that interact to predict moral action in a more comprehensive manner than the sociocognitive and sociomoral factors individually (see Aquino & Reed, 2002).

Moral identity was not significantly associated with public prosocial behaviors, and the results for altruistic prosocial behaviors and aggressive behaviors were marginally significant and in the expected direction. The moral identity latent factor was primarily driven by empathic concern. Therefore, moral identity should be associated most strongly with prosocial behaviors involving an emotional connection with others (such as emotional and direct prosocial behaviors). Previous research has demonstrated a positive link between moral identity and altruistic helping behaviors (see Hardy & Carlo,

2011). Consistent with such research, moral identity was marginally and positively associated with altruistic helping behaviors. Interestingly, moral convictions, which were initially examined as part of the moral identity latent factor, did not load significantly onto the moral identity latent factor. This is consistent with moral internalization theorists, who suggest that moral motivations interact with moral content and sociocognitive skills to predict moral outcomes (Blasi, 1984). Therefore, future research should examine how moral convictions may interact with moral cognitions and moral emotions to predict moral behaviors.

While previous research demonstrates significant links between family-level stress and social behaviors (see Carlo et al., 2011; Conger et al., 2002), these direct associations were not significant in the current study. Stressors were associated with parental rewards, which were associated with moral identity, which were ultimately associated with prosocial behaviors. The mediation analyses, however, were not significant, suggesting that there are likely other important parenting variables (parental psychological adjustment, discipline practices, moral conversations, modeling) and adolescent characteristics (emotionality, self-regulation, self-efficacy) that should be examined in order to better explain the influence of family-level stress on adolescents' social behaviors. Importantly, the current study did not assess parental mental health, which is part of the original family stress model and has been identified as an important mediating mechanism by previous research (e.g., Conger et al., 2002). Stressors were also not significantly associated with adolescents' moral identity. It may be that additional intervening factors account for associations between stressors and moral outcomes. Future research should extend the current study by examining the associations between

stressors and social behaviors via parental mental health, parenting behaviors, and adolescents' moral identity.

Chapter 11

Overall Limitations and Conclusions

Overall Limitations

There are several limitations of the current studies that should be considered. First, the study designs were cross-sectional (not longitudinal nor experimental), so neither causation nor the direction of effects can be established. Therefore, it could be that adolescents' prosocial and aggressive behaviors or adolescents' moral identity predict their experiences of stressors. Future research should examine longitudinal models that can begin to disentangle these associations. Second, all measures were adolescents' self-report, so there could be shared method variance and self-presentational biases. Multiple reporters, behavioral tasks, and observations are important tools that should be used in future research on this topic. Additionally, the sample for Study 2 was limited to adolescents from a small, Midwest community. Therefore, the sample may not adequately represent the diversity of low-income adolescents' experiences (especially with regards to SES, education, ethnicity, race, and geographic location). Additionally, the sample reported relatively low levels of stress, which may have limited the variability. Future studies should continue to examine diverse samples of youth in order to capture a variety of stressful experiences. The sample for Study 1 was also limited in that the sample size was small because of recruitment difficulties. More in depth analyses of the adolescents' interviews will be conducted in the future to better understand experiences of family-level stress among this sample. Future research should also

examine additional parenting practices that may mediate the associations between stressors and adolescents' social adjustment (i.e., moral conversations, inductive discipline).

Overall Conclusions

Overall, these studies provide partial support for the associations between family-level stressors and adolescents' moral behaviors. These studies suggest that stressors, parenting practices, and adolescents' own moral identity are important predictors of moral behaviors. These findings add to existing theoretical approaches by suggesting that the integration of the family stress model and the moral internalization model may be useful in explaining how contextual factors, such as family-level stressors, are associated with youth adjustment. The results of the current studies suggest that stressors may be negatively associated with specific forms of prosocial behaviors if the family-level stress impacts parents' positive parenting practices, such as the use of social rewards that reinforce adolescents' prosocial behaviors. Overall, the findings support the moral internalization model, suggesting that positive parenting practices are associated with adolescents' moral identity and ultimately moral behaviors.

These results demonstrate the need for more research on stress and adolescents' positive adjustment in order to further disentangle these complicated associations. Additionally, these studies provide initial information, which after replication, may assist researchers in creating interventions that help foster resilience in families who are experiencing stress in order to promote positive youth development. One practical implication of the current study is the notion that social rewards may be a particularly positive tool for parents to promote moral outcomes in their adolescents. Additionally,

the results support the idea that stressors are not necessarily negative for youth, but in fact stressors may be associated with community engagement and helping behaviors.

Figure 1. Study 1 Conceptual Model

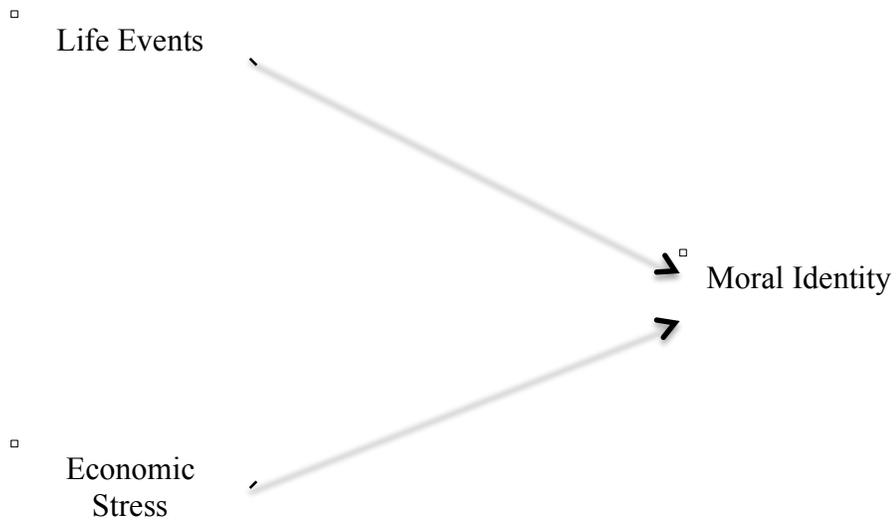


Table 1. Sample responses from moral identity interview for high and low moral identity groups.

Question	No Moral Theme	Moral Theme
What kind of person are you?	“Um, I’m like a fun like a fun and enthusiastic person. Very lighthearted and just...”	“Okay, I’m a very good, helpful person. I enjoy going out of my way to help others, and I’m understanding because I see things from two people’s perspectives.”
What kinds of goals do you have for yourself?	“Okay, well first of all, now a goal is to reach a 3.8 GPA, and I want to graduate high school and get accepted to Rutgers and um graduate, becoming an accountant.”	“To finish college. And to better Camden. Not for me but to like to help better Camden in some ways.”
What kinds of emotions do you typically experience?	“Throughout the day, I’m happy and I feel like kind of refreshed and energy. Kind of restless. On a day-to-day basis, I guess pretty average. It depends on how the day goes and what happens. So, that’s all I can explain about it.”	“I have a lot of sympathy for everybody. Again, I care about a lot of people. Basically I just have a lot of feeling of empathy towards a lot of other people who I see are less fortunate than I am.”
What kinds of things make you proud about yourself?	“Accomplishments. Like when I get a good grade on a test or something. Um boost my self-esteem I guess you would say. I don’t know, when I get compliments. Not even appearance, just like things I’ve done, it helps me.”	“Um, also when I get like, um when I help around the community like I volunteer, I get like, that makes me feel proud cause I know that I’m, like I’m keeping myself out of danger and I’m putting time into my community and I’m just helping around. That makes me feel proud of myself.”
What are your typical activities?	“Um, not at the moment. But something like hobbies wise, I occasionally do practice the piano. I sometimes draw. I’m not that amazing at it. I just doodle, kind of relax.”	“Like school wise, I don’t think so cause sometimes I go to the gym, and then I just try to look for jobs that I can work and participate in at the hospital where I volunteer at. Like I applied for some jobs, like nutrition aid, but I think you have to be certified for some of the things that they need and they expect from you.”
What is your personality like?	“Okay, my personality. I’m a funny person. I’m, I don’t know how to describe personality.”	“Uh, kind.”
How do you think you got to be the kind of person you are now?	“By not letting things interfere with what I have going. Like I’ve been thrown so many obstacles, and I got over them. Made me the strong person I am. With that being said, I don’t let bad things bring me down kind of, makes me stay positive, be happy, stuff like that. To be a cool person.”	“My mom definitely determined who I am, and my dad. My mom taught me how to treat people at a young age. She taught me if you don’t give respect, you don’t get respect. And I want everybody to respect me just as I respect them.”

Table 2. Correlations among economic stress, life events, and moral identity. Camden coefficients are presented first.

	1.	2.	3.
1. Economic Stress			
2. Life Events	.21/.37		
3. Moral Identity (low = 0)	-.12/.31	-.36/-.13	
Mean	1.08/.94	.24/.50	1.36/1.56
SD	.80/.36	.19/.36	.50/.53

Table 3. Differences in perceptions of life events and economic stress for high moral identity and low moral identity groups. Results are presented for the Camden/St. Joseph samples respectively.

	High Moral Identity		Low Moral Identity		t-test(<i>p</i> -value)
	Mean	SD	Mean	SD	
Life Events	.47	.14	.57	.61	.29(.78)
Economic Stress	1.12	.90	.70	.46	-.72(.50)

	High Moral Identity		Low Moral Identity		t-test(<i>p</i> -value)
	Mean	SD	Mean	SD	
Life Events	.15	.11	.29	.07	.29(.78)
Economic Stress	.96	.87	1.15	.27	.41(.69)

Figure 2. Study 2 Conceptual Model

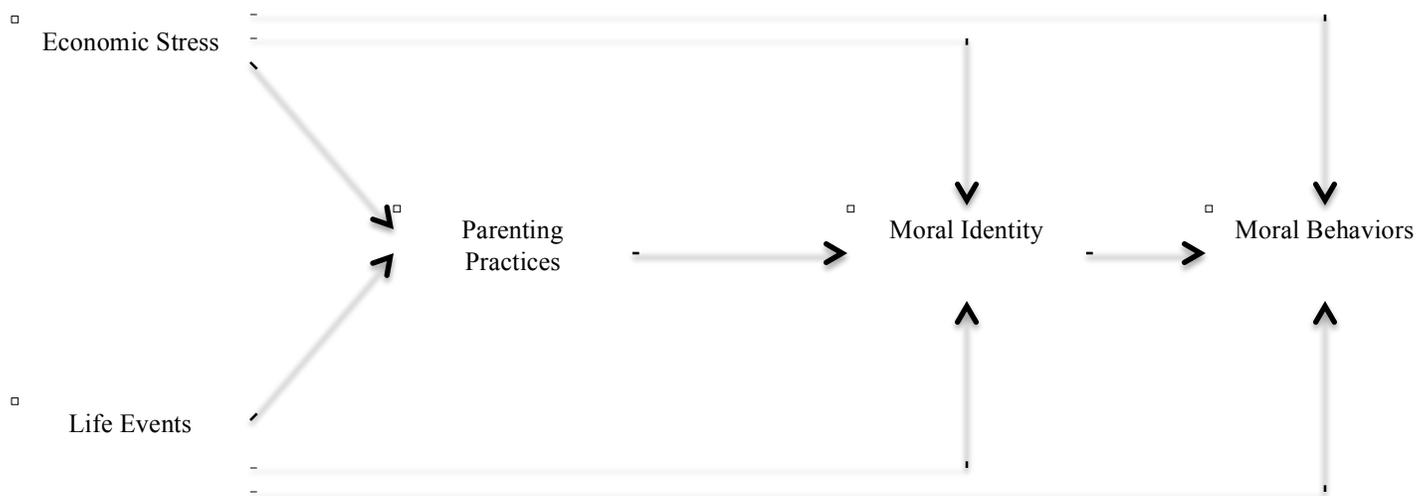


Figure 3. Confirmatory factor analysis of moral identity factor.

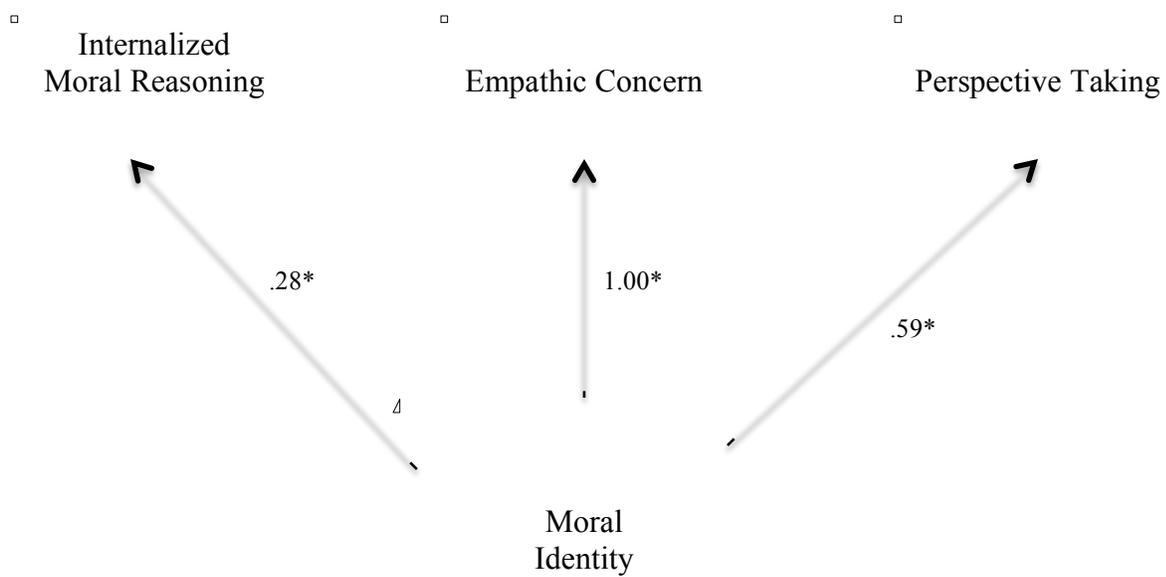


Figure 4. Confirmatory factor analysis of common prosocial behavior factor.

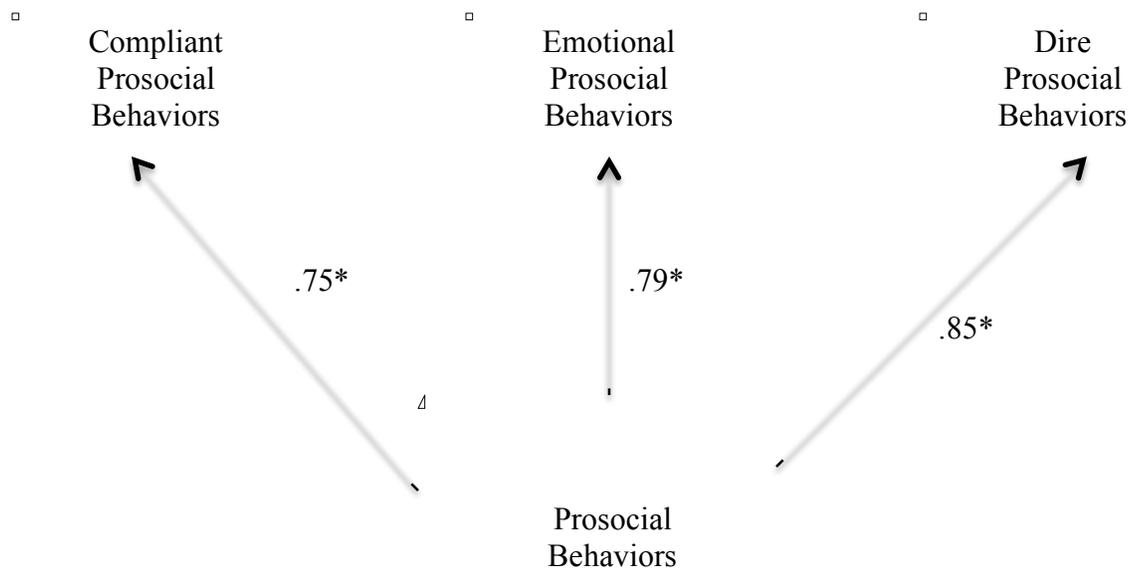


Table 4. Descriptive and correlation analyses for economic stress, life events, parental rewards, moral identity, and prosocial and aggressive behaviors.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Economic Stress															
2. Life Events	.26**														
3. Material Rewards	-.08	.09													
4. Social Rewards	-.25**	-.17*	.46**												
5. Prosocial Moral Reasoning	.03	-.09	.08	.18*											
6. Perspective Taking	-.03	.09	.15*	.19*	-.03										
7. Empathic Concern	-.09	-.07	.11	.24**	.04	.59**									
8. Moral Convictions	.14*	-.15*	.08	.17*	-.02	.32**	.30**								
9. Public	.05	.18*	.34**	.12	-.09	.07	-.03	.15*							
10. Anonymous	.06	.08	.12	.11	.06	.22**	.12	.37**	.12						
11. Altruistic	-.07	-.21*	-.33**	-.06	.02	.07	.18*	-.14	-.52**	-.17*					
12. Emotional	.04	.06	.21*	.26**	.08	.38**	.55**	.32**	.32**	.39**	-.10				
13. Dire	.02	.05	.16*	.27**	.07	.40**	.45**	.37**	.20**	.40**	-.13	.67**			
14. Compliant	-.03	.07	.10	.21*	.05	.41**	.56**	.30**	.16*	.36**	.07	.61**	.67**		
15. Aggression	.31**	.24*	.08	-.20*	-.01	-.06	-.18*	.15*	.09	.05	-.24**	.03	.08	-.13	
Mean	.97	.26	2.13	3.39	2.18	2.92	3.14	2.94	2.26	2.89	3.78	3.61	3.61	3.54	1.92
SD	.61	.24	1.06	1.17	.57	.96	.95	.73	1.09	1.01	1.03	1.00	1.00	.07	.92

Note: .05*; .001**

Figure 5. Standardized coefficients for the associations between life events, economic stress, material rewards, social rewards, moral identity, and altruistic and public prosocial behaviors. All direct paths were included, but the non-significant paths are not depicted. Coefficients without statistical controls included are presented first, followed by the coefficients when maternal education, age, gender, and ethnicity were controlled. † $p = .10$; * $p = .05$.

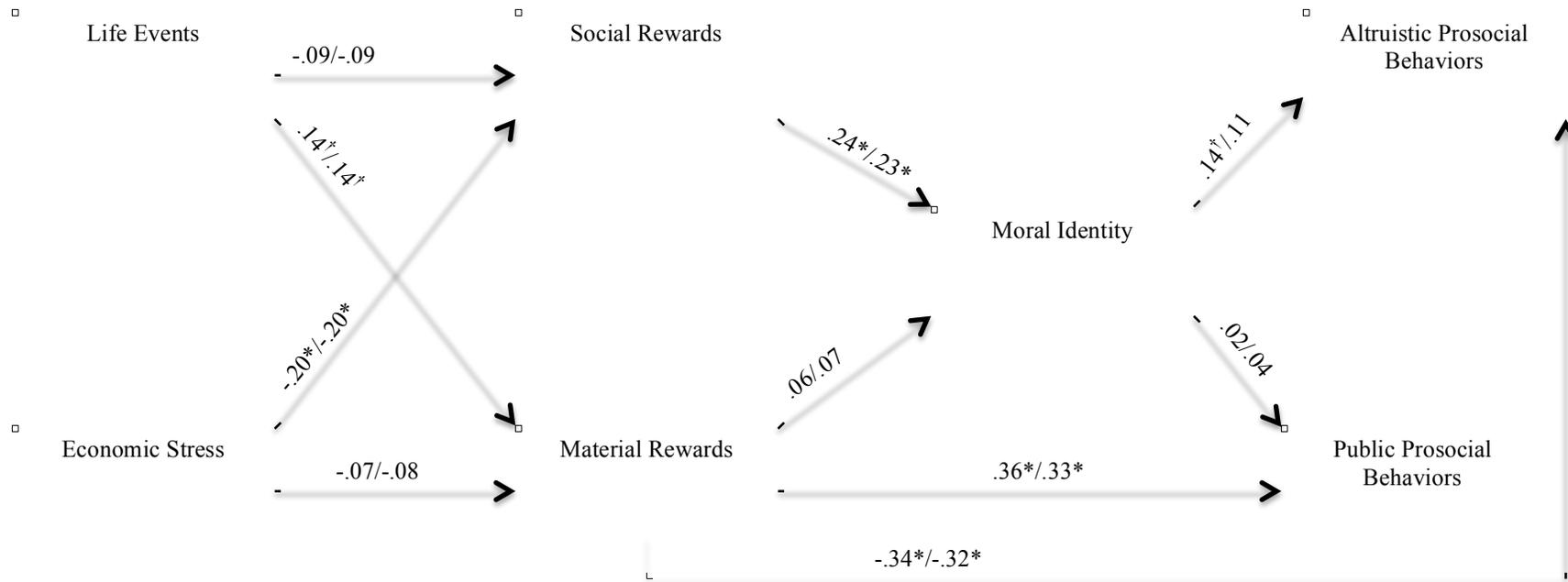
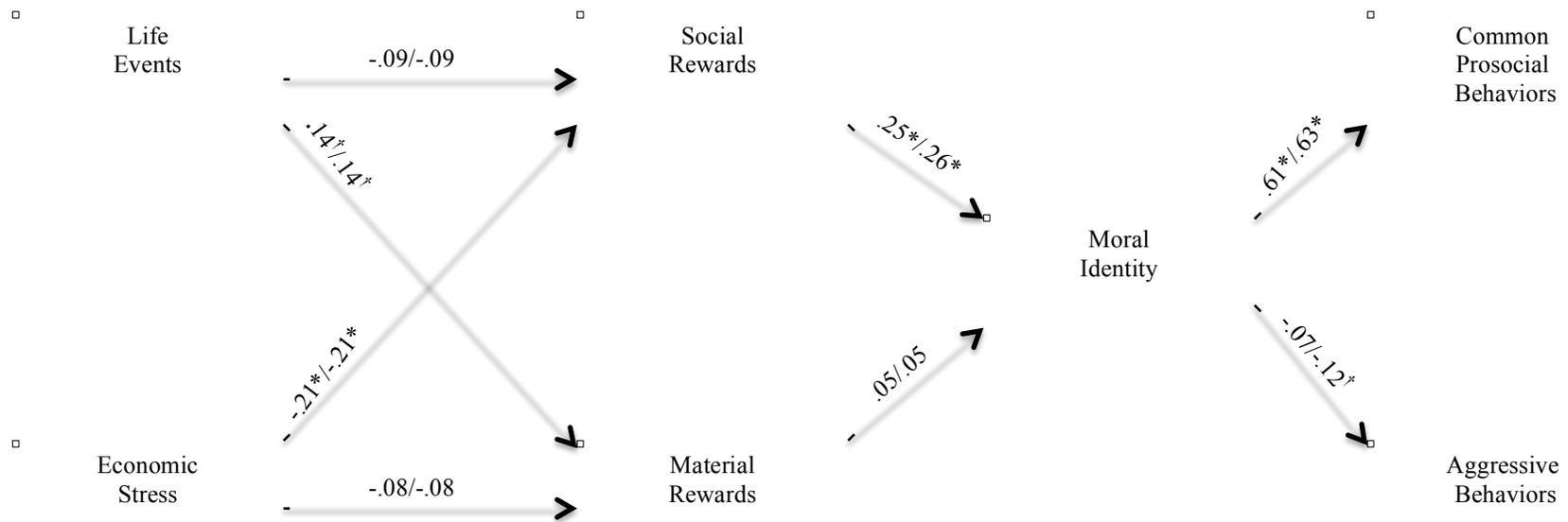


Figure 6. Standardized coefficients for the associations between life events, economic stress, material rewards, social rewards, moral identity, and common prosocial behaviors and aggressive behaviors. All direct paths were included, but the non-significant paths are not depicted. Coefficients without statistical controls included are presented first, followed by the coefficients when maternal education, age, gender, and ethnicity were controlled. † $p = .10$; * $p = .05$.



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Appendix A

Economic Stress

Please rate how often each of the following stressors occurred in the last six months using the scale below.

Not at all	A few times	Often	Almost every day
0	1	2	3

- ___ 1. My parents did not have enough money to pay the bills.
- ___ 2. We did not have enough money for new clothes.
- ___ 3. My parents did not have enough money for the foods I like to eat.
- ___ 4. We did not have enough money to go places I wanted to go.
- ___ 5. We did not have enough money to do things I wanted to do.
- ___ 6. There is no money left over to do something fun as a family.
- ___ 7. We cannot afford a nice house.
- ___ 8. We did not have enough money to buy the things I wanted.

In the past year, have either of your parents or guardians experienced the following?

- ___ 9. Lost a job?

1 = Yes
2 = No

- ___ 10. Stopped working for a long period of time (not because of retirement)?

1 = Yes
2 = No

- ___ 11. Had a cut in wages or salary?

1 = Yes
2 = No

Please answer #12 using the scale below.

Completely Safe		Somewhat Safe		Extremely Dangerous
1	2	3	4	5

___ 12. Is it safe to walk alone in your neighborhood after dark?

___ 13. How many other people live in your household?

___ 14. What is **your TOTAL household's** estimated annual income (including everyone who lives with you) for the last year? (including all sources, such as job, gifts of money, other income, etc.)

1 = Under \$15,000

2 = Between \$15,001 and \$30,000

3 = Between \$30,001 and 45,000

4 = Between \$45,001 and 60,000

5 = Between \$60,001 and 75,000

6 = Between \$75,001 and 90,000

7 = Over \$90,000

Appendix B

Life Events

If the event has not happened to you in the past 6 months, please write NA on the line next to that item. For each event that has happened, please decide how desirable the event was - that is how good or bad it was when it happened to you.

Desirability Rating: Good (desirable) events are ones that are pleasant or make us happy, while bad (undesirable) events are ones that upset us or make us feel scared, sad, or angry. Use the numbers on the following ruler to write down the number that best describes how desirable, or good, each event was when it happened to you. Write this number down in the blank space marked "GOOD-BAD RATING" on the right side of the page.

Did Not Occur	Extremely Bad	Very Bad	Somewhat Bad	Slightly Bad	Neither Good or Bad	Slightly Good	Somewhat Good	Very Good	Extremely Good
NA	(-4)	(-3)	(-2)	(-1)	(0)	(+1)	(+2)	(+3)	(+4)

GOOD-BAD RATING

- _____ 1. Family members, relatives, or stepparents moving in or out of the house
- _____ 2. Death of a family member
- _____ 3. Family member becoming pregnant or having a baby
- _____ 4. Hospitalization of a family member or relative
- _____ 5. Arrest of a family member
- _____ 6. Getting into trouble or being suspended from school
- _____ 7. Parent getting married
- _____ 8. Visiting a parent who does not live with you
- _____ 9. Death of a relative
- _____ 10. Family member or relative having emotional problems (being *really sad, worried, etc.*)
- _____ 11. Friend or family member recovering from being sick or injured
- _____ 12. Breaking up with or being rejected by boyfriend or girlfriend
- _____ 13. Something bad happening to a friend
- _____ 14. Brother or sister getting engaged or married
- _____ 15. Brother or sister getting separated or divorced
- _____ 16. Living with only one parent
- _____ 17. Alcohol or drug use by family members or relatives
- _____ 18. Death of a friend
- _____ 19. Family moves (to a new home)
- _____ 20. Parent loses a job
- _____ 21. Parents getting divorced
- _____ 22. Friend becoming pregnant or having a child

Appendix C

Prosocial Parenting Practices

Does not describe my parent well		Somewhat describes my parent		Describes my parent very well
1	2	3	4	5

How well does the following statement describe your mother (or primary guardian)?

- ___ 1. Your mother praises you when you help someone in need.
- ___ 2. Your mother shows love and affection to you when you have done something good for another person.
- ___ 3. Your mother has set up a reward system to get you to help around the house (e.g. a point system or allowance).
- ___ 4. Your mother talks to you about other children with problems, emphasizing compassion and empathy.
- ___ 5. Your mother buys you a gift for doing something nice to someone.
- ___ 6. Your mother talks to you about being a moral and responsible person.
- ___ 7. Your mother expresses her gratitude when you help around the house.
- ___ 8. Your mother acknowledges and supports you when you have done something good.
- ___ 9. Your mother discusses moral themes with you when you watch television shows or movies.
- ___ 10. Your mother gives you money for going out of your way to help someone.
- ___ 11. Your mother talks to you about sharing with others when you have more than what you need.
- ___ 12. Your mother allows you extra privileges after you have been helpful.
- ___ 13. Your mother lets you buy something as a reward for helping someone.
- ___ 14. Your mother talks to you about the positive consequences of doing good things for other people.

Appendix D

Interpersonal Reactivity Index

The following statements inquire about your thoughts and feelings in a variety of situations. Please indicate how much the statement describes you by choosing from the following options.

This does not describe me at all.	This hardly describes me.	This describes me a little bit.	This describes me a fair amount.	This describes me well.	This describes me perfectly.
0	1	2	3	4	5

- ___ 1. I often have tender, concerned feelings for people less fortunate than me.
- ___ 2. I sometimes find it difficult to see things from the “other person’s” point of view.
- ___ 3. Sometimes I do not feel very sorry for other people when they are having problems.
- ___ 4. I try to look at everybody’s side of a disagreement before I make a decision.
- ___ 5. When I see someone being taken advantage of, I feel kind of protective towards them.
- ___ 6. I sometimes try to understand my friends better by imagining how things look from their perspective.
- ___ 7. Other people’s misfortunes do not usually disturb me a great deal.
- ___ 8. If I am sure I am right about something, I do not waste time listening to other people’s arguments.
- ___ 9. When I see someone being treated unfairly, I sometimes do not feel very much pity for them.
- ___ 10. I am often quite touched by things that I see happen.
- ___ 11. I believe that there are two sides to every question and try to look at them both.
- ___ 12. I would describe myself as a pretty softhearted person.
- ___ 13. When I am upset at someone, I usually try to “put myself in their shoes” for a while.
- ___ 14. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Appendix E

Moral Conviction

1	2	3	4	5
Not at all	Slightly	Moderately	Much	Very much

Please use the scale above to answer the following questions.

-
- _____ 1. How much are your feelings about helping someone at school who does not speak English connected to your core moral beliefs or convictions?
- _____ 2. How much are your feelings about stopping someone from bullying or harassing others connected to your core moral beliefs or convictions?
- _____ 3. How much are your feelings about helping a teen from a low-income neighborhood connected to your core moral beliefs or convictions?
- _____ 4. How much are your feelings about feeding a hungry person connected to your core moral beliefs or convictions?
- _____ 5. How much are your feelings about hazing in order to get into an organization connected to your core moral beliefs or convictions?
- _____ 6. How much are your feelings about war connected to your core moral beliefs or convictions?
- _____ 7. How much are your feelings about the right to use any force to protect your property connected to your core moral beliefs or convictions?
- _____ 8. How much are your feelings about using physical violence to settle conflicts connected to your core moral beliefs or convictions?

Appendix F

PROM (Prosocial Moral Reasoning)

Now you will read a series of stories on the following pages. After you finish reading each story, there will be questions about the story. Use the scale on the page for your answers. Please focus carefully on the stories and make sure to ask if you have any questions.

The Accident

One day Mary [John] was going to a friend's party. On the way, she [he] saw a girl [boy] who had fallen down and hurt her [his] leg. The girl [boy] asked Mary [John] to go to the girl's [boy's] house and get her [his] parents so the parents could come and take her [him] to a doctor. But if Mary [John] did run and get the girl's [boy's] parents, Mary [John] would be late to the party and miss the fun and social activities with her [his] friends.

What should Mary [John] do? Next you will read the following three options. Please choose what you think Mary [John] should do by marking that option.

- Mary [John] should run and get the girl's [boy's] parents
 Not sure
 Mary [John] should go to her [his] friend's party

Following are some reasons that Mary [John] might consider when making her [his] decision. Please indicate how important each of these reasons should be for Mary [John] when deciding what to do.

Should this reason be of great importance, of much importance, of some importance, of little importance, or of no importance when Mary [John] makes her [his] decision?

no	little	some	much	great	1. It depends how Mary [John] would feel about herself [himself] if she [he] helped or not
no	little	some	much	great	2. It depends how much fun Mary [John] expects the party to be and what sorts of things are happening at the party
no	little	some	much	great	3. It depends whether Mary's [John's] parents and friends will think she [he] did the right thing or she [he] did the wrong thing
no	little	some	much	great	4. It depends whether the girl [boy] really needs help or not
no	little	some	much	great	5. It depends whether Mary [John] thinks it's the decent thing to do or not

Now you will read the next story.

Sandy's [Tommy's] Story

Sandy [Tommy] was a student at school. One day Sandy [Tommy] was walking into her [his] new class early and saw an older girl [boy] teasing and making fun of another girl's [boy's] clothes. The girl [boy] was crying. There was no one else around and Sandy [Tommy] did not know the girls [boys] very well, but she [he] had heard that the girl [boy] that was being teased was very poor and the older girl [boy] had a lot of friends. Sandy [Tommy] thought that maybe she [he] should try to stop the older girl [boy], but she [he] was afraid that the older girl [boy] and her [his] friends might pick on her [him] and tease her [him] also.

What should Sandy [Tommy] do? Next you will read the following three options. Please choose what you think Sandy [Tommy] should do by marking that option.

- _____ Sandy [Tommy] should try to stop the older girl [boy]
 _____ Not sure
 _____ Sandy [Tommy] should not stop the older girl [boy]

Following are some reasons that Sandy [Tommy] might consider when making her [his] decision. Please indicate how important each of these reasons should be for Sandy [Tommy] when deciding what to do.

Should this reason be of great importance, of much importance, of some importance, of little importance, or of no importance when Sandy [Tommy] makes her [his] decision?

no	little	some	much	great	1. It depends whether Sandy [Tommy] thinks the older girl [boy] is mean or not
no	little	some	much	great	2. It depends whether the other girl [boy] is crying a lot
no	little	some	much	great	3. It depends whether Sandy [Tommy] can find other friends to do things with in school
no	little	some	much	great	4. It depends whether Sandy [Tommy] thinks she's [he's] doing what she [he] believes she [he] should do
no	little	some	much	great	5. It depends whether Sandy's [Tommy's] classmates would approve of what she [he] does

Now you will read the next story.

Swimming Story

Sue [Scott] was very good at swimming. She [He] was asked to help young handicapped children who could not walk learn to swim so that they could make their legs strong for walking. Sue [Scott] was the only one in town who could do the job because she [he] was a good swimmer and a swimming teacher. But helping the crippled children would take much of Sue's [Scott's] free time left after work, and Sue [Scott] wanted to practice swimming very hard for an important swimming contest coming up. If Sue [Scott] could not practice swimming in all her [his] free time, she [he] would probably lose the swimming contest and not receive the prize for winning, which was money. Sue [Scott] was planning to use the prize money for her [his] college education or for other things she [he] wanted.

What should Sue [Scott] do? Next you will read the following three options. When you are finished, choose what you think Sue [Scott] should do by marking that option.

- _____ Sue [Scott] should teach the swimming class
 _____ Not sure
 _____ Sue [Scott] should practice for the swimming contest

Following are some reasons that Sue [Scott] might consider when making her [his] decision. Please indicate how important each of these reasons should be for Sue [Scott] when deciding what to do.

Should this reason be of great importance, of much importance, of some importance, of little importance, or of no importance when Sue [Scott] makes her [his] decision?

no	little	some	much	great	1. It depends whether Sue [Scott] believes teaching the children is the nice thing to do
no	little	some	much	great	2. It depends if Sue [Scott] really wants to win the swimming contest
no	little	some	much	great	3. It depends if the handicapped children's legs hurt or not
no	little	some	much	great	4. It depends whether Sue's [Scott's] parents and the community will think she [he] did the right thing or she [he] did the wrong thing
no	little	some	much	great	5. It depends whether or not Sue [Scott] would feel good about the children being able to walk better

Appendix G

Prosocial Tendencies Measure

Here are some sentences that might or might not describe you. Please indicate how much each statement describes you by using the scale below.

Does not describe me at all 1	Describes me a little 2	Somewhat describes me 3	Describes me well 4	Describes me very well 5
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- ___ 1. I can help others best when people are watching me.
- ___ 2. It makes me feel good when I can comfort someone who is very upset.
- ___ 3. When other people are around, it is easier for me to help others in need.
- ___ 4. I think that one of the best things about helping others is that it makes me look good.
- ___ 5. I tend to help people who are in a real crisis or need.
- ___ 6. When people ask me to help them, I do not hesitate.
- ___ 7. I prefer to donate money without anyone knowing.
- ___ 8. I tend to help people who are hurt badly.
- ___ 9. I believe that donating goods or money works best when I get some benefit.
- ___ 10. I tend to help others in need when they do not know who helped them.
- ___ 11. I tend to help others especially when they are really emotional.
- ___ 12. Helping others when I am being watched is when I work best.
- ___ 13. It is easy for me to help others when they are in a bad situation.
- ___ 14. Most of the time, I help others when they do not know who helped them.
- ___ 15. I respond to helping others best when the situation is highly emotional.
- ___ 16. I never wait to help others when they ask for it.
- ___ 17. I think that helping others without them knowing is the best type of situation.
- ___ 18. One of the best things about doing charity work is that it looks good.
- ___ 19. Emotional situations make me want to help others in need.
- ___ 20. I feel that if I help someone, they should help me in the future.
- ___ 21. I usually help others when they are very upset.

Appendix H

Aggression

Here are some more sentences. For each sentence, please choose the answer that best describes you using the scale on the card.

1	2	3	4	5
Almost never	Not often	Sometimes	Often	Almost always

- ___ 1. People who get me angry better watch out.
- ___ 2. If someone tries to hurt me, I make sure I get even with them.
- ___ 3. If someone does something I really do not like, I yell at them about it.
- ___ 4. I lose my temper and "let people have it" when I am angry.
- ___ 5. I pick on people I do not like.

Appendix I

Free Description of Self Interview

1. What kind of person are you?
2. What kinds of goals do you have for yourself?
3. What kinds of emotions do you typically experience?
4. What kinds of things make you proud about yourself?
5. What are your typical activities?
6. What is your personality like?
7. How do you think you got to be the kind of person you are now?

Vita

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