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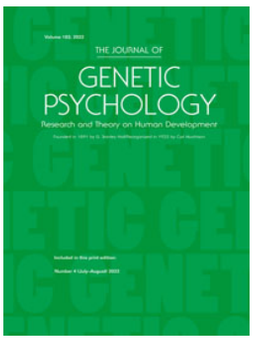

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# The Intervening Roles of Shame and Guilt in Relations between Parenting and Prosocial Behavior in College Students

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**ABSTRACT**

Despite the importance of understanding the relations between parenting and youth's prosocial behavior, there is surprisingly little research focused on the relations among parenting practices, shame, guilt, and prosocial behaviors. The present study was designed to examine the intervening roles of shame and guilt in relations between parental support and psychological control and public and altruistic prosocial behaviors in college students. The participants were 304 (62.5% female, 76.3% European American, $M_{age}$= 18.71, $SD$=0.92) college students. We found partial support for our hypotheses. Specifically, we found that parental psychological control was positively linked to shame which, in turn, was positively linked to public prosocial behaviors. In contrast, parental support was positively linked to guilt which, in turn, was positively linked to altruistic prosocial behaviors and negatively linked to public prosocial behaviors. Further, psychological control was directly and positively linked to public prosocial behaviors and negatively linked to altruistic prosocial behaviors. Parental support was directly and positively linked to public prosocial behaviors. Discussion will focus on the implications of the findings for theories of moral socialization and prosocial development.

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**KEYWORDS**
Parenting; guilt; shame; prosocial behavior; moral development

Parents play an essential role in youth's prosocial behaviors (i.e., voluntary actions intended to benefit others; Eisenberg et al., 2015; Spinrad et al., 2019). According to prosocial socialization theories, supportive parents foster their youth's prosocial behaviors by forming a positive parent-child relationship and being responsive to their youth's social, emotional, and psychological needs (Eisenberg et al., 2015; Hoffman, 2000; Spinrad et al., 2019). In contrast, psychological control practices often undermine youth's prosocial behaviors by invalidating feelings, suppressing independent thought processes, inducing intense shame and guilt, and overprotection (Barber et al., 2005; Eisenberg et al., 2015). Additionally, some researchers have examined moral emotions, particularly empathy (i.e., feeling the same as another) and sympathy (i.e., feelings of concern or sorrow for others), as intervening mechanisms in relations between parenting and prosocial behaviors (Eisenberg et al., 2015; Spinrad et al., 2019; see also Davis & Carlo, 2018; Guo & Feng, 2017; Padilla-Walker & Christensen, 2011). However, there are other moral emotions such as shame (i.e., an aversive feeling experienced when people fail to meet others' moral standards and involves a negative evaluation of global self) and guilt (i.e., an aversive feeling experienced when people fail to meet their internalized moral standards and involves a negative evaluation of a specific behavior regarding a specific event) that are much less studied yet deemed to also predict prosocial behaviors (Carlo et al., 2012; Eisenberg, 2000; Tangney et al., 2007a, p. 25). Additionally,

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emerging adulthood (roughly from ages 18 to 25) is an important period of psychosocial transition from adolescence into adulthood (Arnett, 2007) and often overlaps with college years. We use *youth* to refer to this age group in the current study. During college years, increased autonomy, spending time away from parents or other adults, living independently, and increased willingness to engage in risky behaviors often brings new challenges to youth's life and they need to make several moral decisions on their own (Arnett, 2007; Gardner & Steinberg, 2005; Hart & Carlo, 2005). They sometimes make wrong decisions and engage in undesired behaviors and as a consequence, they may feel shame and/or guilt. Thus, it necessitates understanding the role of shame and guilt in this transition period. However, research on individual differences in shame and guilt as accounting for the relations between parenting practices and prosocial behaviors is nonexistent. Thus, we examine the intervening roles of shame and guilt in relations between parental support and psychological control and prosocial behaviors in college students.

## Altruistic and public prosocial behaviors

Prosocial behaviors are multidimensional and situation-specific constructs (Padilla-Walker & Carlo, 2014). Two specific forms of prosocial behaviors, altruistic and public, are of particular interest to this study because they reflect intrinsically and extrinsically motivated prosocial behaviors (Carlo & Randall, 2002). According to self-determination theory, intrinsic and extrinsic motivations are differentially related to behaviors (Ryan & Deci, 2000). More specifically, intrinsic motivation is related to individuals' internal factors, such as innate desires and internalized moral values, whereas extrinsic motivation is related to external factors, such as public approval or receiving recognition (Ryan & Deci, 2000). Altruistic prosocial behaviors can be defined as helping tendencies with little to no expectation of self-reward and represent selflessly motivated prosocial behaviors because of the cost to the self. Further, given that empathic concern, sympathy, and internalized moral values motivate individuals to act altruistically (Eisenberg et al., 2015; Staub, 2005), altruistic prosocial behaviors are intrinsically motivated behaviors. Public prosocial behaviors, on the other hand, can be defined as helping tendencies in front of an audience to receive public recognition or approval. Given public prosocial behaviors are displayed with the expectation of social approval, reciprocated rewards, and elevated social status, public prosocial behaviors are instrumental, somewhat selfishly driven, and extrinsically motivated behaviors (Carlo, 2014; Carlo & Randall, 2002).

## Parental support, psychological control, and prosocial behaviors

According to parenting and prosocial socialization theories, parental support and control are two important dimensions of parenting styles (Baumrind, 1991; Maccoby & Martin, 1983). Based on prosocial socialization theories, parental support refers to the extent to which parents form a warm, positive, and affectionate relationship with their youth, and are responsive to their youth's social, emotional, and psychological needs (Hoffman, 2000; Spinrad et al., 2019). Additionally, parental support also refers to providing different types of help to youth (e.g., instrumental, emotional, informative; Lakey & Cohen, 2000). Supportive parents foster their youth's prosocial development by offering information about desirable moral behaviors, modeling prosocial behaviors, and reinforcing appropriate moral behaviors (Spinrad et al., 2019). Further, prosocial and moral socialization theorists suggest that warm and supportive parents tend to use inductions, and parental warmth and inductive reasoning work together to foster the internalization of moral values (Grusec & Goodnow, 1994), which in turn predict prosocial behaviors (Carlo, 2014; Carlo & Conejo, 2019). Consistent with these theoretical statements, a modest, positive relation between parental support and prosocial behavior has been documented among youth both longitudinally (Padilla-Walker & Christensen, 2011; Padilla-Walker et al., 2012, 2016) and cross-sectionally (Carlo et al., 2007; see also Spinrad et al., 2019 for review).

On the other hand, psychological control refers to the extent to which parents intervene in their children's psychological world via power assertion, love withdrawal, and shame induction (Barber et al., 2005). Because psychologically controlling parents attempt to coercively invalidate their children's feelings, psychological control is negatively linked to developmental outcomes (Barber et al., 2005). Further, controlling parents tend to have higher expectations and excessive demands from their youth, which can lead to their youth's negative reactions and emotions (e.g., fear, anger), and in turn, increase youth's self-focused rather than other-focused behaviors (Hoffman, 2000; Spinrad et al., 2019). Psychological control is negatively linked to prosocial behaviors longitudinally among Chinese adolescents (Fu & Zhang, 2019), European American adolescents (Yoo et al., 2013), and German adolescents (Rueth et al., 2017), and retrospectively among African American college students (Clark et al., 2015). Taken together, previous research has well documented the relations between parental support and psychological control and youth's prosocial behaviors. However, research focus on the intervening roles of shame and guilt in the relations between parenting practices and prosocial behaviors is nonexistent.

## Intervening roles of shame and guilt in relations between parenting and prosocial behaviors

Parenting practices can also influence moral emotions such as shame and guilt (Carlo, 2014). For example, psychologically controlling parents induce shame that can overpower moral messages in the socialization process and hinder youth's prosocial behaviors (Barber et al., 2005; Carlo, 2014; Eisenberg, 2000). In contrast, warm and supportive parents tend to induce guilt in the discipline context to encourage their youth to self-control their emotions and behaviors, which fosters caring for others' needs and can promote prosocial behaviors (Hoffman, 2000). Further, as mentioned earlier, according to moral internalization theory, parental warmth and inductive reasoning together promote the internalization of moral values (Grusec & Goodnow, 1994), which in turn foster prosocial behaviors (Carlo, 2014; Carlo & Conejo, 2019). Indeed, previous research has demonstrated negative relations between psychological control, power assertion, and negative parenting behaviors and guilt, whereas positive relations between supportive, warm, responsive, and sensitive parenting behaviors and guilt among children and youth (dos Santos et al., 2020; Mintz et al., 2017). In contrast, previous research has demonstrated positive relations between psychological control, rejection, and negative parenting behaviors and shame, whereas negative relations between parental warmth, support, care, and responsiveness and shame from childhood through adulthood (Bahtiyar & Gençöz, 2021; dos Santos et al., 2020; Mintz et al., 2017; Sedighimornani et al., 2021).

Emotion theorists assert that shame and guilt, like other human emotions, serve an adaptive function in the survival of the human species (e.g., Campos et al., 2004; Izard, 1977). Shame and guilt are conceptualized as self-conscious emotions that are related to moral development because they are grounded in the individual's evaluations of the moral self (Eisenberg, 2000). Shame is self-focused, manifested as generalized disapproval of oneself over a personal shortcoming in response to engaging in undesirable behaviors, and involves a negative evaluation of the global self (Tangney, 1991; Tangney et al., 2007a, p. 25; 2007b). Because shame focuses on the self (i.e., devaluing or condemning self), ashamed individuals often avoid other people and might not consider their needs, nor are they motivated to try to make amends (Eisenberg, 2000). Guilt, on the other hand, is an other-focused painful moral emotion, manifested as discomfort, evoked in moral situations, often stems from regrets over wrongdoings, and involves a negative evaluation of a specific behavior regarding a specific event; thus, guilt motivates individuals to make reparations (Hoffman, 2000; Spinrad et al., 2019; Tangney, 1991; Tangney et al., 2007a, p. 25; 2007b). Conceptually, guilt is considered relatively more moral than shame, and shame is considered less adaptive than guilt in promoting moral behaviors (Eisenberg, 2000; Tangney et al., 2007a). In prior studies, guilt-proneness was found to foster prosocial behaviors among children and adolescents from the U.S., Finland, and Italy (Chapman et al., 1987; Menesini &

Camodeca, 2008; Roos et al., 2014). Further, anticipated guilt has also been found to promote prosocial behaviors among early adolescents in the Netherlands (Olthof, 2012). Additionally, a meta-analytic review of 42 studies found small to moderate effect sizes for positive associations between guilt attributions and prosocial behaviors (Malti & Krettenauer, 2013).

In contrast, the research on the links between shame and prosocial behaviors is less clear (Carlo, 2014). Some previous research has shown negative relations between shame and prosocial behaviors suggesting that shame-proneness deters prosocial behaviors among Finnish early adolescents (Roos et al., 2014). However, other research has shown that shame is positively related to prosocial behaviors in children from Italy (Menesini & Camodeca, 2008; see also Laible et al., 2008). It is unclear why there are mixed findings. Some scholars have suggested that shame might have distinct effects in specific cultural contexts or perhaps such findings depend upon specific measures of prosocial behaviors (see Carlo, 2014). Nonetheless, such mixed findings suggest the need for further research and research examining specific forms of prosocial behaviors. To address these needs, we examined the relations of guilt and shame to altruistic and public forms of prosocial behaviors.

## Relations among shame, guilt, altruistic, and public prosocial behaviors

Conceptually, guilt can be differentiated from shame by depending on the public versus private nature of the wrongdoings, though people equally feel guilty and shameful in the presence of others (see Tangney et al., 2007b). Because guilt arouses when people fail to meet their internalized moral standard related to a specific behavior, guilt is the evaluation of oneself from their own perspective and thus, it is considered private moral emotion (Tangney et al., 2007b). In contrast, because shame arouses when people fail to meet others' moral standards, shame is the evaluation of oneself from others' perspectives and thus, it is considered public moral emotion (Tangney et al., 2007b). Based on this conceptual distinction between guilt and shame and given the unique motivations behind each prosocial behavior, guilt is expected to promote altruistic prosocial behaviors and mitigate public prosocial behaviors because guilt motivates people to make reparations and help others to avoid negative feelings of violating their internalized personal moral values related to a specific behavior. In contrast, shame is expected to promote public prosocial behaviors and mitigate altruistic prosocial behaviors because shame motivates individuals to help needy others in front of audiences to gain their approval and to avoid the negative feelings of violating others' moral standards. Consistent with these notions, in one study, guilt was found to be positively related to altruistic prosocial behaviors but negatively associated with public prosocial behaviors among college students (Carlo et al., 2012). In contrast, shame was found to be positively linked to public prosocial behaviors and negatively related to altruistic prosocial behaviors (Carlo et al., 2012). Given the one known prior study on these relations, additional research is warranted to further examine these associations.

## Study hypotheses

Based primarily on theories (Carlo & Conejo, 2019; Grusec & Goodnow, 1994; Hoffman, 2000; Tangney et al., 2007a, 2007b) and limited empirical evidence, we investigated the intervening roles of shame and guilt on the associations between parental support and psychological control and prosocial behaviors in college students. Of particular interest, we hypothesized that parental support would be negatively linked to shame, which would subsequently be positively linked to public, but negatively linked to altruistic, prosocial behavior. Parental support would be positively linked to guilt, which would subsequently be positively linked to altruistic, but negatively linked to public, prosocial behavior. Additionally, we expected that psychological control would be positively related to shame, which would subsequently be positively related to public, but negatively related to altruistic, prosocial behavior. Lastly, psychological control would be negatively

related to guilt, which would subsequently be negatively related to public, but positively related to altruistic, prosocial behavior. We also expected that parental support and psychological control would be directly and positively linked to public prosocial behaviors, but unrelated to altruistic prosocial behaviors.

In addition, developmental theorists suggest that there are bidirectional relations between individuals and their environment, such as their relationships with parents (Bronfenbrenner & Morris, 2006). Not only do parents' parenting behaviors influence youth's prosocial behaviors, but youth's prosocial behaviors also influence parents' parenting behaviors (see Mounts & Allen, 2019 for review). Consistent with these arguments, previous research has shown that emerging adults' prosocial behaviors are positively linked to their parents' warm and supportive parenting practices but negatively linked to psychologically controlling practices in a longitudinal investigation (Padilla-Walker et al., 2018). Thus, it particularly necessitates assessing the directionality of these effects and we explored an alternative model (reverse model). Because the reverse model was exploratory in nature, we did not develop a-priori hypotheses. Lastly, given prior evidence on gender differences in prosocial development such that girls tend to engage in altruistic and boys tend to engage in public forms of helping (see Xiao et al., 2019 for a metanalytic review), we also explored whether these hypothesized associations varied by gender.

## Method

### Participants

The participants were 304 college students between the ages of 18 and 23 years old ($M_{age}$= 18.71 years, $SD$ = 0.92; 62.5% female) from a large public university in the Midwest. Participants were 76.3% European American, 9.9% African American, 5.3% Asian American, 2.6% Hispanic, and 0.3% Native American. Additionally, participants indicated that 38% of both mothers and fathers had a college degree, and 28% of mothers and 31% of fathers had a graduate or professional degree.

### Procedure

Participants were recruited from Introduction to Psychology undergraduate courses in the Psychology Department through in-class announcements to complete paper-and-pencil surveys. Participants signed the consent forms and completed the survey packet in small groups in a quiet classroom. The survey packet took participants up to an hour to complete, and students received course credit in return for their participation. The study was deemed exempt by the University of Missouri because the data were deidentified.

### Measures

#### Parental psychological control

Participants rated the degree to which their parents used psychological control practices using the Psychological Control - Youth Self Report scale (PC-YSR; Barber, 1996) on a 5-point scale (1 = *Never* to 5 = *Almost always of the time*). Higher scores indicate greater psychological control (8 items; "My mother/father brings up my past mistakes when she/he criticizes me", "My mother/father changes the subject, whenever I have something to say", "My mother/father is always trying to or think about things"; $\alpha = 0.83$). The PCS has been used widely and demonstrated good reliability in previous research (e.g., Padilla-Walker et al., 2021; Rogers et al., 2019; Urry et al., 2011). Additionally, a confirmatory factor analysis (CFA) was conducted to confirm the use of the psychological control subscale with college students. CFA model fit the data well:

$\chi^2$ (14) = 25.82, $p$ = .027, RMSEA = 0.05, CFI = 0.98, TLI = 0.96, SRMR = 0.03, and all standardized factor loadings were significant and varied from 0.31 to 0.79.

### Parental support

To assess parental support, participants rated the degree to which their parents displayed support using the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985) on a 5-point scale (1 = *Little or none* to 5 = *The most*). The NRI consists of 30 questions tap into 10 subscales and the combination of these subscales reflects two dimensions, positivity/support and negativity (Furman & Buhrmester, 2009). Because we were particularly interested in parental support in the current study, we focused solely on the positivity/support items (21 items regarding reliable alliance, enhancement of worth, instrumental help, companionship, affection, and intimacy subscales). We created an overall mean score utilizing 21 items and higher scores indicate greater maternal and paternal support (e.g., "How much does this person treat you like you're admired and respected?", "How much does this person really care about you?", "How much does this person help you figure out or fix things?", "How much does this person like or love you?"; α = 0.93 and 0.95 for mothers and fathers, respectively). The NRI is a widely used measure and has been demonstrated good reliability in previous research (e.g., Campione-Barr et al., 2021; Hostinar et al., 2015). Additionally, a confirmatory factor analysis (CFA) was conducted to confirm the use of the psychological control subscale with college students. CFA model for maternal support fit the data well: $\chi$2 (152) = 282.56, $p$ < .001, RMSEA = 0.05, CFI = 0.96, TLI = 0.95, SRMR = 0.07, and all standardized factor loadings were significant and varied from 0.45 to 0.77. Similarly, CFA model for paternal support fit the data well: $\chi$2 (152) = 285.87, $p$ < .001, RMSEA = 0.05, CFI = 0.96, TLI = 0.95, SRMR = 0.06, and all standardized factor loadings were significant and varied from 0.42 to 0.81. To make the support scale consistent with the psychological control scale, we calculated the average score of parental support by taking the average of maternal and paternal support ($r$ = 0.47, $p$ < .001).

### Shame and guilt

The self-conscious emotions of shame and guilt were measured using the Test of Self-Conscious Affect-3 (TOSCA-3; Tangney et al., 2000). Participants rated their tendencies to feel guilt and shame on fifteen scenarios on a 5-point scale (1 = *Not likely* to 5 = *Very likely*) with higher scores reflecting greater shame and guilt. Both the subscales demonstrated good reliabilities in this sample (α guilt = 0.79; α shame = 0.75). The TOSCA-3 has been used widely and demonstrated good validity and reliability (e.g., Laible et al., 2008; 2014; Strömsten et al., 2009; Woien et al., 2003).

### Prosocial behaviors

Public and altruistic prosocial behaviors were measured using the revised version of the Prosocial Tendencies Measure (PTM-R; Carlo et al., 2003). Participants rated their public and altruistic prosocial tendencies on a 5-point scale (1 = *Does not describe me at all* to 5 = *Describes me greatly*) with higher scores representing greater prosocial behaviors. An example item of public prosocial behavior is "I tend to help best when people are watching me" (3 items; α = 0.74), whereas an example item of altruistic prosocial behavior is "I tend to help with charity work best when it looks good on my résumé" (5 reverse coded items; α = 0.64). The PTM-R is commonly used (see Xiao et al., 2019 and Wong et al., 2021) for meta-analyses), well-validated, and has demonstrated good reliability in previous research (e.g., Carlo et al., 2007, 2012).

### Data analyses plan

To test our hypotheses, we conducted path analysis using the maximum likelihood robust standard error (MLR) estimation in Mplus 8.0 (Muthén & Muthén, 1998–2017). Multiple fit indices

were utilized to assess the goodness of model fit: the root mean square error approximation (RMSEA ≤ 0.06), comparative fit index (CFI ≥ 0.90), Tucker-Lewis index (TLI ≥ 0.90), and standardized root mean residual (SRMR ≤ 0.08) (Byrne, 2011; Hu & Bentler, 1999). A path model was estimated with parental support and psychological control as exogenous variables, shame and guilt as intervening variables, and altruistic and public prosocial behaviors as endogenous variables, controlling for participants' gender and their maternal education as a proxy of socioeconomic status (see Figure 1).

Additionally, we also tested the reverse model with altruistic and public prosocial behaviors as exogenous variables, shame and guilt as intervening variables, and parental support and psychological control as endogenous variables (see Figure 2). Similarly, participants' gender and their maternal education were statistical control variables. We estimated all possible direct paths both in the main model and the reverse model. Additionally, using the INDIRECT function in Mplus, we estimated all indirect paths in the model and conducted a follow-up bias-corrected residual bootstrap analysis to estimate confidence intervals for indirect effects (MacKinnon et al., 2004). Lastly, we used the MULTIGROUP function in Mplus to test whether these hypothesized associations varied by gender.

## Results

### *Preliminary analyses*

We conducted preliminary analyses to examine descriptive statistics and correlations among the main study variables. All study variables showed normal distribution (West et al., 1995). Bivariate correlations yielded several significant correlations (see Table 1). For instance, parental support was negatively associated with psychological control. Parental support was positively associated with guilt, whereas psychological control was positively associated with shame. Further, guilt was positively associated with altruistic, but negatively associated with public, prosocial behavior. Shame and guilt were positively correlated with each other.

### *Main analyses*

#### *Main model*

The hypothesized model fit the data well: N = 302, $\chi^2$ (4) = 8.89, $p$ = .06, RMSEA (90% CI) = 0.06 (0.00, 0.12), CFI = 0.98, TLI = 0.91, SRMR = 0.03. As shown in Figure 1, results showed that psychological control was directly and positively related to public and negatively related to altruistic prosocial behaviors. Similarly, psychological control was positively related to shame. In addition, parental support was directly and positively related to public prosocial behavior and guilt. Guilt was positively related to altruistic prosocial behavior and negatively related to public prosocial behavior, whereas shame was positively related to public prosocial behavior. There were no other significant relations.

**Table 1.** Descriptive statistics and bivariate correlation among main study variables.

| | Variables | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|
| 1. | Parental support | – | | | | | |
| 2. | Parental psychological control | −0.25** | – | | | | |
| 3. | Guilt | 0.15** | 0.09 | – | | | |
| 4. | Shame | 0.01 | 0.17** | 0.55** | – | | |
| 5. | Public prosocial behavior | 0.07 | 0.11 | −0.14* | 0.05 | – | |
| 6. | Altruistic prosocial behavior | 0.03 | −0.14* | 0.27** | 0.11 | −0.52** | – |
| | *Mean* | 3.73 | 2.10 | 3.94 | 3.17 | 2.21 | 3.46 |
| | *SD* | 0.65 | 0.73 | 0.52 | 0.54 | 0.92 | 0.79 |

*Note.* $^{**}p < .05$, $^{*}p < .01$.

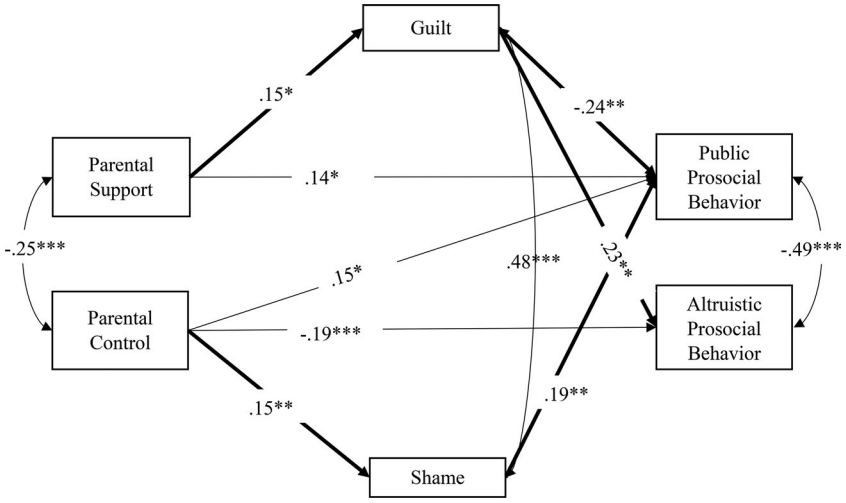


**Figure 1.** Relations between parenting and prosocial behaviors and indirect effects via guilt and shame. *Note.* Model fit the data well: N = 302, χ2 (4) = 8.89, $p$ = .06, RMSEA (90% CI) = 0.06 (0.00, 0.12), CFI = 0.98, TLI = 0.91, SRMR = 0.03. Standardized estimates and significant paths are presented. Gender and maternal education are statistical controls, but not depicted in the figure. Bold arrows indicate significant indirect effects. ***$p$ < .001, **$p$ < .01, *$p$ < .05.

### *Multigroup analysis*

We conducted a multigroup analysis by gender to explore whether hypothesized associations vary by gender. The unconstrained model (N = 302, $\chi^2$ (4) = 2.83, $p$ = .59, Scaling Correction Factor for MLR = 1.06, RMSEA (90% CI) = 0.00 (0.00, 0.11), CFI = 1.00, TLI = 1.05, SRMR = 0.02) did not significantly differ from the fully constrained model ($\chi^2$ (23) = 30.32, $p$ = .14, Scaling Correction Factor for MLR = 1.04, RMSEA (90% CI) = 0.05 (0.00, 0.09), CFI = 0.97, TLI = 0.95, SRMR = 0.10) based on Satorra-Bentler scaled chi-square difference test (S–B $\Delta\chi^2$ (19) = 27.53, $p$ = .09) (Satorra & Bentler, 2010), suggesting no gender differences. Thus, we report the results of this model for the full sample.

### *Indirect effects*

We conducted a follow-up bias-corrected residual bootstrap analyses to estimate confidence intervals for indirect effects (MacKinnon et al., 2004). We found significant indirect effects from parental psychological control to public prosocial behavior via shame ($\beta$ = 0.03, $SE$ = 0.02, 95% CI [0.01, 0.07],] , $p$ = .067), from parental support to altruistic prosocial behavior via guilt ($\beta$ = 0.03, $SE$ = 0.02, 95% CI [0.01, 0.07], $p$ = .026), and from parental support to public prosocial behavior via guilt ($\beta$ = −0.03, $SE$ = 0.02, 95% CI [−0.08, −0.01], $p$ = .044). There were no other significant indirect effects.

### *Reverse model*

The reverse model fit the data well: N = 302, $\chi^2$ (6) = 11.93, $p$ = .063, RMSEA (90% CI) = 0.06 (0.00, 0.11), CFI = 0.98, TLI = 0.92, SRMR = 0.03. As shown in Figure 2, results showed that public prosocial behaviors were positively linked to shame, whereas altruistic prosocial behaviors were positively linked to guilt. Additionally, altruistic prosocial behaviors were negatively and directly linked to parental psychological control. Lastly, guilt was positively linked to parental support, whereas shame was positively linked to psychological control. There were no other significant relations.

We conducted a multigroup analysis by gender to explore whether hypothesized associations vary by gender. The unconstrained model (N = 302, $\chi^2$ (8) = 9.93, $p$ = .270, Scaling Correction

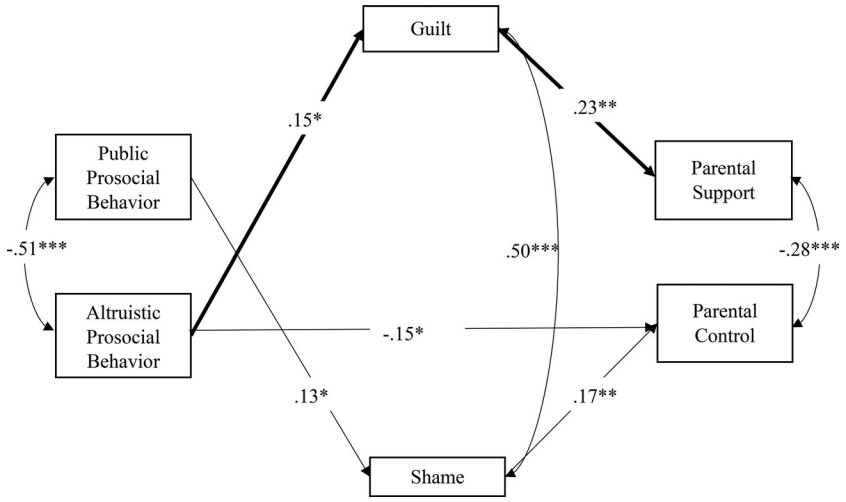


**Figure 2.** Reverse model, relations between prosocial behaviors and parenting and indirect effects via shame and guilt.*Note.* Model fit the data well: N = 302, χ2 (6) = 11.93, $p$ = .063, RMSEA (90% CI) = 0.06 (0.00, 0.11), CFI = 0.98, TLI = 0.92, SRMR = 0.03. Standardized estimates and significant paths are presented. Gender and maternal education are statistical controls, but not depicted in the figure. Bold arrows indicate significant indirect effects. ***$p$ < .001, **$p$ < .01, *$p$ < .05.

Factor for MLR = 0.924, RMSEA (90% CI) = 0.04 (0.00, 0.11), CFI = 0.99, TLI = 0.94, SRMR = 0.04) did not significantly differ from the fully constrained model ($\chi^2$ (25) = 33.24, $p$ = .151, Scaling Correction Factor for MLR = 1.029, RMSEA (90% CI) = 0.04 (0.00, 0.08), CFI = 0.95, TLI = 0.93, SRMR = 0.08) based on Satorra-Bentler scaled chi-square difference test (S–B $\Delta\chi^2$ (17) = 23.21, $p$ = .143) (Satorra & Bentler, 2010), suggesting no gender differences. Thus, we report the results of this model for the full sample.

Lastly, we conducted a follow-up bias-corrected residual bootstrap analysis to estimate confidence intervals for indirect effects (MacKinnon et al., 2004). We found significant indirect effects from altruistic prosocial behaviors to parental support via guilt ($\beta = 0.03$, $SE = 0.02$, 95% CI [0.01, 0.09], $p$ = .067). There were no other significant indirect effects.

## Discussion

The purpose of this study was to examine the intervening roles of shame and guilt in relations between parental support and psychological control and altruistic and public prosocial behaviors in college students. We found partial support for our hypotheses. Specifically, we found that parental psychological control was positively related to shame which, in turn, was positively related to public prosocial behaviors. In contrast, parental support was positively related to guilt which, in turn, was positively related to altruistic and negatively related to public prosocial behaviors. Further, parental psychological control was also directly and negatively linked to altruistic and positively linked to public prosocial behaviors. In addition, parental support was positively and directly linked to public prosocial behaviors. Overall, these findings contribute to moral socialization and prosocial development theories (Carlo & Conejo, 2019; Grusec & Goodnow, 1994; Hoffman, 2000).

### *Intervening roles of shame and guilt in relations between parenting and prosocial behaviors*

One of the notable contributions of this study is the intervening roles of shame in relations between parental psychological control and public prosocial behaviors. Such findings are contrary

to some prior research that has demonstrated negative relations between shame and prosocial behaviors (e.g., Roos et al., 2014). However, these findings are consistent with other research that has demonstrated positive relations between shame and prosocial behaviors (e.g., Menesini & Camodeca, 2008). The present findings suggest that prior mixed relations between shame and prosocial behaviors might be a function of the specific type of prosocial behavior given that prior studies used global measures of prosocial behaviors. Thus, although some scholars have asserted that shame might undermine prosocial and moral behaviors, the present findings yield evidence that shame is positively linked to instrumental and self-focused forms of prosocial behaviors (public). Importantly, public prosocial behaviors can be adaptive under specific circumstances and might also be normative and expected in some cultures. For example, individuals who engage in public prosocial behaviors might do so to gain the approval of authority figures (e.g., parents, teachers) or peers, which is important for social well-being. Furthermore, in collectivist-oriented and strong familistic cultures (e.g., Asian, African, and Latinx heritages), public prosocial behaviors might be considered normative, expected, and socially desirable. In these group-oriented cultures, engaging in public prosocial behaviors might be culturally adaptive. Therefore, although public prosocial behaviors are not primarily driven by selfless motives, such actions are nonetheless important indicators of prosocial development.

In addition, the indirect effect from psychological control to altruistic prosocial behaviors via shame was insignificant, though the relations were in expected direction. Nonetheless, this finding is also consistent with the theoretical conceptualization of shame. Contrary to guilt, shame is self-focused and involves a negative evaluation of the global self (Tangney, 1991; Tangney et al., 2007a, p. 25; 2007b). Ashamed individuals experience generalized disapproval of oneself over a personal shortcoming in response to engaging in undesirable behaviors. However, because altruistic prosocial behaviors are intrinsically motivated behaviors and motivated by empathic concern, sympathy, and internalized moral values (Eisenberg et al., 2015; Staub, 2005), shame may not be linked to altruistic prosocial behaviors.

The other notable contribution of this study is the intervening roles of guilt in relations between supportive parenting and youth's altruistic and public prosocial behaviors. Parental support was positively related to guilt, which, in turn, was positively related to altruistic and negatively related to public prosocial behavior. Conceptual models and previous research have suggested that supportive parents socialize their youth's prosocial behaviors by offering information about desirable moral behaviors, modeling, and reinforcing prosocial behaviors (Carlo, 2014; Spinrad et al., 2019). Additionally, supportive parents tend to induce proper levels of guilt in a discipline context which functions as a self-regulatory mechanism in youth to foster caring for others' needs and promote prosocial behaviors (Hoffman, 2000). Supportive parents also facilitate an affective environment, where youth are encouraged to express moral emotions such as guilt. Therefore, these parenting behaviors help youth to better internalize moral values into their sense of moral self (Grusec & Goodnow, 1994; Hardy et al., 2008), which in turn foster greater altruistic and less public prosocial behaviors (Carlo, 2014). These findings are also consistent with the broader prosocial development models that suggest that parental support fosters prosocial behaviors via socioemotive correlates (e.g., sympathy; Eisenberg et al., 2015).

We found that guilt was positively linked to selflessly and intrinsically motivated prosocial behaviors (altruistic) and negatively related to selfishly and extrinsically motivated prosocial behaviors (public). Consistent with conceptualization, guilt is an aversive moral emotion stemming from failure to meet one's personal moral standards and involves a negative evaluation of a specific behavior regarding a specific event (Carlo et al., 2012; Tangney & Dearing, 2002; Tangney et al., 2007a, p. 25). Further, individuals are more likely to feel guilty after regretting wrongdoings, generally, in moral situations. Thus, consistent with moral socialization theories, guilt motivates individuals to make reparations (Hoffman, 2000; Spinrad et al., 2019; Tangney, 1991; Tangney et al., 2007a) and engage in more altruistic and less public prosocial behaviors. Scholars suggest that the positive relation between guilt and altruistic prosocial behavior can be explained in part by empathy-related responses (Olthof, 2012). Anticipated guilt implies an

empathy-related response that helps foster selfless prosocial behavior. Additionally, increases in other-oriented empathic responses in adolescence and emerging adulthood can further help explain the positive relation between guilt and altruistic prosocial behavior.

There was also evidence for the reverse model such that youth who have higher altruistic prosocial tendencies were more likely to experience guilt and were further more likely to have supportive parents. Though the direct effect from altruistic prosocial behaviors to parental support is not significant, the indirect effect is consistent with theories of bidirectional individual-environment effects (Bronfenbrenner & Morris, 2006) and prior studies suggesting bidirectional relations between parenting and youth's prosocial behaviors (Padilla-Walker et al., 2018; see also Padilla-Walker et al., 2012; Pastorelli et al., 2016; see Mounts & Allen, 2019 for a review). Consistent with the social feedback hypothesis (Carlo & Randall, 2001) and prior evidence (e.g., Carlo et al., 2011), the findings suggest that engagement in altruistic prosocial behaviors can be reciprocally linked to guilt tendencies and evoke higher levels of supportive parenting. This adds to growing evidence on reciprocal parent-youth effects in prosocial development.

### *Direct relations between parenting and prosocial behaviors*

As expected, parental support was positively and directly linked to public prosocial behaviors but unrelated to altruistic prosocial behavior. These findings suggest that parental support can foster instrumental and extrinsically motivated forms of prosocial behaviors but might be insufficient to predict intrinsically motivated altruistic actions. The positive relations between parental support and public prosocial behaviors are consistent with the notion that youth might frequently engage in public prosocial behaviors to gain the approval of their parents and to improve the quality of the parent-youth relationship. The lack of significant relations between parental support and altruistic actions, on the other hand, is consistent with moral internalization models (Grusec & Goodnow, 1994) that suggest that parental support by itself might not be enough to promote altruistic prosocial behaviors because such behaviors are primarily motivated by empathy-related traits (e.g., sympathy) and/or strong internalized moral values (Eisenberg et al., 2015; Staub, 2005).

Given the limited research on parental psychological control and prosocial behaviors, the associations between psychological control and altruistic and public prosocial behaviors were particularly important in this study. Psychological control was directly and negatively related to altruistic prosocial behaviors. Further, altruistic prosocial behaviors were directly and negatively related to psychological control. These parenting behaviors do not effectively teach moral values, nor do they likely foster empathic tendencies given their effects on invalidating their children's feelings and suppressing their autonomy (Barber et al., 2005; Eisenberg et al., 2015). Indeed, consistent with these latter assertions, psychological control was directly and positively related to public prosocial behaviors. Thus, these parenting behaviors might strengthen social approval motives, which in turn, might foster greater public prosocial behaviors. Taken together, and consistent with moral socialization theories, the possible consequences of using parental psychological control might be to deter altruistic prosocial behaviors that require the internalization of moral values and empathic tendencies (Grusec & Goodnow, 1994; Hoffman, 2000) but increase public prosocial behaviors that are characterized by social approval and instrumental motives.

### *Limitations and future directions*

There were several important study limitations. First, the current study is a cross-sectional research design; thus, causality or directions of effects cannot be inferred. Future research is needed with prospective longitudinal research designs or experimental (e.g., interventions) designs to better ascertain the directions of relations. Second, the present sample was a convenience sample recruited from Introduction to Psychology undergraduate courses in the Psychology Department. Additionally, the present sample was predominantly White and women college students. Because White,

European American college students are a very select sample of youth, research is much needed with more diverse and representative samples and in youth from nonwhite, European American cultural groups. Third, data were obtained by administering self-report measures. Future research is needed with different measurement approaches (e.g., observations, multiple reporters) to minimize shared method variance and social desirability concerns. Fourth, we utilized path analysis to test the hypothesized associations because we did not have the required sample size per parameter to estimate a model with latent variables (see Jackson, 2003). Lastly, in the current study, participants reported relatively moderate levels of parental support, psychological control, guilt, shame, and altruistic and public prosocial behaviors and consistent with prosocial and moral socialization theories (Grusec & Goodnow, 1994; Hoffman, 2000), we found linear relations among these variables. Future research with a larger, broader, and more representative sample with scorers on the extreme ends of the scales will be helpful to better understand nonlinear effects.

## Conclusions

Despite these limitations, the current study addresses several gaps in the literature by delineating the distinct intervening roles of shame and guilt in the links between parental support and psychological control and prosocial behaviors in college students. For instance, guilt intervenes in the relations between parental support and youth's public and altruistic prosocial behaviors. On the other hand, shame intervenes in the relations between parental use of psychological control and youth's public prosocial behaviors only. There are important theoretical and practical implications. Regarding theoretical implications, the present findings were in accord with prosocial and moral socialization and prosocial development theories (Carlo, 2014; Eisenberg et al., 2015; Hoffman, 2000) and provide further evidence for the distinct intervening roles of shame and guilt. Moreover, the pattern of relations informs prior mixed findings and advances our understanding that shame and guilt might be differentially linked to specific types of prosocial behavior. Regarding practical implications, although further research is needed, the distinct patterns of findings have important practical implications for more nuanced and effective intervention programs aimed at fostering distinct forms of prosocial behaviors. For example, parent education curriculums can incorporate activities aimed at modifying parenting practices to foster relatively intrinsically and selflessly motivated versus extrinsically and selfishly motivated forms of youth's prosocial behaviors. Importantly, given the suggestive evidence on the intervening roles of shame and guilt, program developers should consider the relative emphases of guilt versus shame inductions as strategies aimed at fostering distinct forms of prosocial behaviors.

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## Data availability statement

The data and materials used in the research are not publicly available but are available upon reasonable request. For information, please contact Dr. Zehra Gülseven at gulseven@uci.edu.

## References

Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives*, *1*(2), 68–73. doi:10.1111/j.1750-8606.2007.00016.x

Bahtiyar, B., & Gençöz, T. (2021). The association between perceived parenting and adulthood anxiety: The mediator roles of emotion regulation, shame and anger. *Current Psychology*. Advance online publication. doi:10.1007/s12144-021-02279-1

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development*, *67*(6), 3296–3319. doi:10.1111/j.1467-8624.1996.tb01915.x

Barber, B. K., Stolz, H. E., & Olsen, J. A. (2005). Parental support, psychological control, and behavioral control: Assessing relevance across time, culture, and method. *Monographs of the Society for Research in Child Development*, *70*(4), 1–137.

Baumrind, D. (1991). Parenting styles and adolescent development. In J. Brooks-Gunn, R. Lerner, & A. C. Petersen (Eds.), *The encyclopedia of adolescence* (pp. 746–758). Garland.

Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In W. Damon & R. M. Lerner (Eds. in Chief) and R. M. Lerner (Volume Ed.), *Handbook of child psychology* (6th ed., Vol. 1, pp. 793–828). Wiley.

Byrne, B. M. (2011). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge/Taylor & Francis Group.

Campione-Barr, N., Rote, W., Killoren, S. E., & Rose, A. J. (2021). Adolescent adjustment during COVID-19: The role of close relationships and COVID-19-related stress. *Journal of Research on Adolescence*, *31*(3), 608–622.

Campos, J. J., Frankel, C. B., & Camras, L. (2004). On the nature of emotion regulation. *Child Development*, *75*(2), 377–394. doi:10.1111/j.1467-8624.2004.00681.x

Carlo, G. (2014). The development and correlates of prosocial moral behaviors. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 208–234). Psychology Press.

Carlo, G., & Conejo, L. D. (2019). Traditional and culture-specific parenting of prosociality in U.S. Latino/as. In D. Laible, L. Padilla-Walker, & G. Carlo (Eds.), *Oxford handbook of parenting and moral development* (pp. 247–266). Oxford University Press. doi:10.1093/oxfordhb/9780190638696.013.15

Carlo, G., Hausmann, A., Christiansen, S., & Randall, B. A. (2003). Sociocognitive and behavioral correlates of a measure of prosocial tendencies for adolescents. *The Journal of Early Adolescence*, *23*(1), 107–134. doi:10.1177/0272431602239132

Carlo, G., McGinley, M., Davis, A., & Streit, C. (2012). Behaving badly or goodly: Is it because I feel guilty, shameful, or sympathetic? Or is it a matter of what I think? *New Directions for Youth Development*, *2012*(136), 75–93. doi:10.1002/yd.20040

Carlo, G., McGinley, M., Hayes, R., Batenhorst, C., & Wilkinson, J. (2007). Parenting styles or practices? Parenting, sympathy, and prosocial behaviors among adolescents. *The Journal of Genetic Psychology*, *168*(2), 147–176. doi:10.3200/GNTP.168.2.147-176

Carlo, G., Mestre, M. V., Samper, P., Tur, A., & Armenta, B. E. (2011). The longitudinal relations among dimensions of parenting styles, sympathy, prosocial moral reasoning, and prosocial behaviors. *International Journal of Behavioral Development*, *35*(2), 116–124. doi:10.1177/0165025410375921

Carlo, G., & Randall, B. (2001). Are all prosocial behaviors equal? A socioecological developmental conception of prosocial behavior. In F. Columbus (Ed.), *Advances in psychology research* (Vol. II, pp. 151–170). Nova Science Publishers.

Carlo, G., & Randall, B. A. (2002). The development of a measure of prosocial behaviors for late adolescents. *Journal of Youth and Adolescence*, *31*(1), 31–44. doi:10.1023/A:1014033032440

Chapman, M., Zahn-Waxler, C., Cooperman, G., & Iannotti, R. (1987). Empathy and responsibility in the motivation of children's helping. *Developmental Psychology*, *23*(1), 140–145. doi:10.1037/0012-1649.23.1.140

Clark, C. M., Dahlen, E. R., & Nicholson, B. C. (2015). The role of parenting in relational aggression and prosocial behavior among emerging adults. *Journal of Aggression, Maltreatment & Trauma*, *24*(2), 185–202. doi:10.1080/10926771.2015.1002653

Davis, A. N., & Carlo, G. (2018). The roles of parenting practices, sociocognitive/emotive traits, and prosocial behaviors in low-income adolescents. *Journal of Adolescence*, *62*, 140–150.

dos Santos, M. A., Castro, J. M. D. F. e., & Pinto, C. S. D. F. L. (2020). The moral emotions of guilt and shame in children: Relationship with parenting and temperament. *Journal of Child and Family Studies*, *29*(10), 2759–2769. doi:10.1007/s10826-020-01766-6

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

Eisenberg, N., Spinrad, T. L., & Knafo-Noam, A. (2015). Prosocial development. In M. E. Lamb & M. R. Lerner (Eds.), *Handbook of child psychology and developmental science, Vol. 3, socioemotional processes* (7th ed., pp. 610–656). Wiley Blackwell.

Fu, X., & Zhang, Y. (2019). Bidirectional relation between paternal/maternal psychological control and adolescent behavioral outcomes. *Journal of Child and Family Studies*, (29), 1402–1412.

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology*, *21*(6), 1016–1024. doi:10.1037/0012-1649.21.6.1016

Furman, W., & Buhrmester, D. (2009). Methods and measures: The network of relationships inventory: Behavioral systems version. *International Journal of Behavioral Development*, *33*(5), 470–478. doi:10.1177/0165025409342634

Gardner, M., & Steinberg, L. (2005). Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology*, *41*(4), 625–635. doi:10.1037/0012-1649.41.4.625

Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology*, *30*(1), 4–19. doi:10.1037/0012-1649.30.1.4

Guo, Q., & Feng, L. (2017). The associations between perceived parenting styles, empathy, and altruistic choices in economic games: A study of Chinese children. *Frontiers in Psychology*, *8*, 1843. doi:10.3389/fpsyg.2017.01843

Hardy, S. A., Padilla-Walker, L. M., & Carlo, G. (2008). Parenting dimensions and adolescents' internalization of moral values. *Journal of Moral Education*, *37*(2), 205–223. doi:10.1080/03057240802009512

Hart, D., & Carlo, G. (2005). Moral development in adolescence. *Journal of Research on Adolescence*, *15*(3), 223–233. doi:10.1111/j.1532-7795.2005.00094.x

Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge University Press.

Hostinar, C. E., Johnson, A. E., & Gunnar, M. R. (2015). Parent support is less effective in buffering cortisol stress reactivity for adolescents compared to children. *Developmental Science*, *18*(2), 281–297.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. [Database] doi:10.1080/10705519909540118

Izard, C. E. (1977). *Human emotions*. Plenum.

Jackson, D. L. (2003). Revisiting sample size and number of parameter estimates: Some support for the N: Q hypothesis. *Structural Equation Modeling: A Multidisciplinary Journal*, *10*(1), 128–141. doi:10.1207/S15328007SEM1001_6

Lakey, B., & Cohen, S. (2000). Social support theory and measurement. In S. Cohen (Ed.), *Social support measurement and intervention* (pp. 29–52). Oxford University Press.

Laible, D., Eye, J., & Carlo, G. (2008). Dimensions of conscience in mid-adolescence: Links with social behavior, parenting, and temperament. *Journal of Youth and Adolescence*, *37*(7), 875–887. doi:10.1007/s10964-008-9277-8

Laible, D. J., Murphy, T. P., & Augustine, M. (2014). Adolescents' aggressive and prosocial behaviors: Links with social information processing, negative emotionality, moral affect, and moral cognition. *The Journal of Genetic Psychology*, *175*(3-4), 270–286.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In E. M. Hetherington (Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (pp. 1–101). Wiley.

MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, *39*(1), 99–128.

Malti, T., & Krettenauer, T. (2013). The relation of moral emotion attributions to prosocial and antisocial behavior: A meta-analysis. *Child Development*, *84*(2), 397–412. doi:10.1111/j.1467-8624.2012.01851.x

Menesini, E., & Camodeca, M. (2008). Shame and guilt as behaviour regulators: Relationships with bullying, victimization and prosocial behaviour. *British Journal of Developmental Psychology*, *26*(2), 183–196. doi:10.1348/026151007X205281

Mintz, G., Etengoff, C., & Grysman, A. (2017). The relation between childhood parenting and emerging adults' experiences of shame and guilt. *Journal of Child and Family Studies*, *26*(10), 2908–2920. doi:10.1007/s10826-017-0778-5

Mounts, N. S., & Allen, C. (2019). Parenting styles and practices: Traditional approaches and their application to multiple types of moral behavior. In D. J. Laible, G. Carlo, & L. M. Padilla-Walker (Eds.), *The Oxford handbook of parenting and moral development* (pp. 41–56). Oxford University Press. doi:10.1093/oxfordhb/9780190638696.013.10

Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide* (8th ed.). Muthén & Muthén.

Olthof, T. (2012). Anticipated feelings of guilt and shame as predictors of early adolescents' antisocial and prosocial interpersonal behaviour. *European Journal of Developmental Psychology*, *9*(3), 371–388. doi:10.1080/17405629.2012.680300

Padilla-Walker, L. M., & Carlo, G. (Eds.). (2014). *Prosocial development: A Multidimensional Approach*. Oxford University Press.

Padilla-Walker, L., Carlo, G., Christensen, K., & Yorgason, J. (2012). Bidirectional relations between authoritative parenting and adolescents' prosocial behaviors. *Journal of Research on Adolescence*, *22*(3), 400–408. doi:10.1111/j.1532-7795.2012.00807.x

Padilla-Walker, L. M., & Christensen, K. J. (2011). Empathy and self-regulation as mediators between parenting and adolescents' prosocial behavior toward strangers, friends, and family. *Journal of Research on Adolescence*, *21*(3), 545–551. doi:10.1111/j.1532-7795.2010.00695.x

Padilla-Walker, L. M., Nelson, L. J., Fu, X., & Barry, C. M. (2018). Bidirectional relations between parenting and prosocial behavior for Asian and European-American emerging adults. *Journal of Adult Development*, *25*(2), 107–120. doi:10.1007/s10804-017-9272-y

Padilla-Walker, L. M., Nielson, M. G., & Day, R. D. (2016). The role of parental warmth and hostility on adolescents' prosocial behavior toward multiple targets. *Journal of Family Psychology*, *30*(3), 331–340.

Padilla-Walker, L. M., Son, D., & Nelson, L. J. (2021). Profiles of helicopter parenting, parental warmth, and psychological control during emerging adulthood. *Emerging Adulthood*, *9*(2), 132–144. doi:10.1177/2167696818823626

Pastorelli, C., Lansford, J. E., Luengo Kanacri, B. P., Malone, P. S., Di Giunta, L., Bacchini, D., Bombi, A. S., Zelli, A., Miranda, M. C., Bornstein, M. H., Tapanya, S., Tirado, L. M. U., Alampay, L. P., Al-Hassan, S. M., Chang, L., Deater-Deckard, K., Dodge, K. A., Oburu, P., Skinner, A. T., & Sorbring, E. (2016). Positive parenting and children's prosocial behavior in eight countries. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *57*(7), 824–834. doi:10.1111/jcpp.12477

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*(1), 54–67.

Rogers, A. A., Memmott-Elison, M. K., Padilla-Walker, L. M., & Byon, J. (2019). Perceived parental psychological control predicts intraindividual decrements in self-regulation throughout adolescence. *Developmental Psychology*, *55*(11), 2352–2364.

Roos, S., Hodges, E., & Salmivalli, C. (2014). Do guilt- and shame-proneness differentially predict prosocial, aggressive, and withdrawn behaviors during early adolescence? *Developmental Psychology*, *50*(3), 941–946. doi:10.1037/a0033904

Rueth, J. E., Otterpohl, N., & Wild, E. (2017). Influence of parenting behavior on psychosocial adjustment in early adolescence: Mediated by anger regulation and moderated by gender. *Social Development*, *26*(1), 40–58. doi:10.1111/sode.12180

Satorra, A., & Bentler, P. M. (2010). Ensuring positiveness of the scaled difference chi-square test statistic. *Psychometrika*, *75*(2), 243–248. doi:10.1007/s11336-009-9135-y

Sedighimornani, N., Rimes, K., & Verplanken, B. (2021). Factors contributing to the experience of shame and shame management: Adverse childhood experiences, peer acceptance, and attachment styles. *The Journal of Social Psychology*, *161*(2), 129–145. doi:10.1080/00224545.2020.1778616

Spinrad, T. L., Eisenberg, N., & Valiente, C. (2019). Parenting and children's prosocial development. In M. H. Bornstein (Ed.), *Handbook of parenting* (3rd ed., pp. 91–121). Routledge.

Staub, E. (2005). The roots of goodness: The fulfillment of basic human needs and the development of caring, helping and nonaggression, inclusive caring, moral courage, active bystandership, and altruism born of suffering. In G. Carlo & C. P. Edwards (Eds.), *Moral motivation through the life span: Vol. 51 of the Nebraska Symposium on Motivation* (pp. 33–72). University of Nebraska Press.

Strömsten, L. M. J., Henningsson, M., Holm, U., & Sundbom, E. (2009). Assessment of self-conscious emotions: A Swedish psychometric and structure evaluation of the Test of Self-Conscious Affect (TOSCA). *Scandinavian Journal of Psychology*, *50*(1), 71–77.

Tangney, J. (1991). Moral affect: The good, the bad, and the ugly. *Journal of Personality and Social Psychology*, *61*(4), 598–607. doi:10.1037//0022-3514.61.4.598

Tangney, J., & Dearing, R. (2002). *Shame and guilt*. Guilford Press.

Tangney, J. P., Dearing, R., Wagner, P. E., & Gramzow, R. (2000). *The Test of Self-Conscious Affect – 3 (TOSCA-3)*. George Mason University.

Tangney, J. P., Stuewig, J., & Mashek, D. (2007a). What's moral about self-conscious emotions. In J. L. Tracy, R. W. Robins, & J. P. Tangney (Eds.), *The self-conscious emotions. Theory and research* (pp. 21–37). The Guildford Press.

Tangney, J., Stuewig, J., & Mashek, D. (2007b). Moral emotions and moral behavior. *Annual Review of Psychology*, *58*, 345–372. doi:10.1146/annurev.psych.56.091103.070145

Urry, S. A., Nelson, L. J., & Padilla-Walker, L. M. (2011). Mother knows best: Psychological control, child disclosure, and maternal knowledge in emerging adulthood. *Journal of Family Studies*, *17*(2), 157–173. doi:10.5172/jfs.2011.17.2.157

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues and applications* (pp. 56–75). Sage.

Wong, T. K., Konishi, C., & Kong, X. (2021). Parenting and prosocial behaviors: A meta-analysis. *Social Development*, *30*(2), 343–373. doi:10.1111/sode.12481

Woien, S. L., Ernst, H. A., Patock-Peckham, J. A., & Nagoshi, C. T. (2003). Validation of the TOSCA to measure shame and guilt. *Personality and Individual Differences*, *35*(2), 313–326. doi:10.1016/S0191-8869(02)00191-5

Xiao, S. X., Hashi, E. C., Korous, K. M., & Eisenberg, N. (2019). Gender differences across multiple types of prosocial behavior in adolescence: A meta-analysis of the prosocial tendency measure-revised (PTM-R). *Journal of Adolescence*, *77*, 41–58. doi:10.1016/j.adolescence.2019.09.003

Yoo, H., Feng, X., & Day, R. D. (2013). Adolescents' empathy and prosocial behavior in the family context: A longitudinal study. *Journal of Youth and Adolescence*, *42*(12), 1858–1872. doi:10.1007/s10964-012-9900-6