Parent Materialistic Values: Effects on Domain Parenting and Adolescent Moral Development

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy

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Abstract

Materialism, or the orientation towards viewing material goods and money as important for personal happiness, is detrimental in several ways: it is associated with psychological maladjustment and lowered well-being and also conflicts with pursuits of caring for and relating to others. Although research has found that materialism is associated with fewer and lower-quality relationships with others, no research to date has explored the effects of materialism on the parent-child relationship, and the resulting impact on the child’s orientation towards others. These associations were explored in the present research. One hundred and five mothers and 76 fathers were assessed on measures of materialism (self-enhancement values and extrinsic aspirations) and parenting. Three domains of parenting were considered: control parenting (disciplinary strategies), protection parenting (responsiveness to child distress), and guided
learning parenting (guidance through parent-child discussion). The 105 adolescents of these parents were assessed on indicators of moral development: prosocial and antisocial behavior, value internalization, prosocial moral reasoning, and empathy. It was hypothesized that parent materialism would predict lower levels of adolescent moral development and that this association would be mediated by parenting behaviors. This hypothesis was partially supported, but only for mothers. One measure of mother materialism - self-enhancement - related to adolescent prosocial behavior, while the other measure of mother materialism - extrinsic aspirations - related to adolescent approval orientation. Two mediators were identified for the mother self-enhancement/adolescent prosocial behavior link: mother operational-interfering style during moral discussions (guided learning parenting) and mother use of non-reasoning and punitive disciplinary strategies (control parenting). Beyond these links to adolescent moral development, both mother and father materialism were linked to negative parenting behaviors, including low responsiveness to adolescent distress, low empathy (in mothers), and high use of scolding and criticisms (in fathers). The results of this research indicate that when parents place high value on demonstrating power over others and achievement according to social standards at the expense of more prosocial values, adolescent moral development suffers, as mediated by the effect of materialism on parenting behaviors.
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Parent Materialistic Values: Effects on Domain Parenting and Adolescent Moral Development

In the 21st century, capitalism reigns as the dominant system for organizing economic life around the world and is particularly entrenched in the structure of Western societies (Gilpin & Gilpin, 2000). Capitalism has many virtues, including increased economic output and technological advancement compared to other economic systems; however, recent explorations into the psychological effects of capitalism have identified a clear negative consequence of this system – the promotion of values related to self-interest, competition, and material gain in its practitioners (Kasser, Cohn, Kanner, & Ryan, 2007). The materialistic and self-concerned orientations arising out of capitalist societies are detrimental in several ways: they are associated with psychological maladjustment and lowered well-being (e.g., Kasser & Ryan, 1993), and they also conflict with pursuits of caring for and relating to others (Kasser et al., 2007). The search for personal identity through consumption and competition distances individuals from one another as they emphasize egoism at the expense of altruism (Yankelovich, 1981). Although research has found that materialistic pursuits are associated with fewer and lower-quality relationships with others (Kasser, 2002), no research to date has explored the effects of these pursuits on the parent-child relationship, and the resulting impact on the child’s orientation towards others. These associations were explored in the present research.

Materialism

In the consumer research literature, materialism is variously defined as the importance individuals attach to worldly possessions (Belk, 1985), a way of life based upon material interests (Fournier & Richins, 1991), and “an orientation which views material goods and money
as important for personal happiness and social progress” (Ward & Wackman, 1971, p.422).

Materialistic people are highly concerned with their image and social standing. Leiss, Kline, and Jhally (1986) report that materialistic individuals are primarily concerned with social comparison and their standing in relation to others – perceived happiness and self-esteem are not based on the absolute amount of money or possessions themselves but rather on the ratio of what one has compared to what others have. Csikszentmihalyi and Rochberg-Halton (1981) proposed two broad forms of materialism: instrumental and terminal. The more benign form, instrumental, occurs when possessions and money are used to make life more manageable, safer, or enjoyable. In other words, the material acquisitions serve a higher purpose. Terminal materialism, on the other hand, is more destructive and occurs when consumption serves no goal beyond possession itself. The only purpose of material acquisition for terminal materialists is the social recognition, status, and external rewards that they view as tied to their wealth and possessions.

This distinction between motives for materialism is not assessed in any existing measures of materialism; most measures assess terminal materialism, with items referring to the happiness and satisfaction derived from material possessions in and of themselves (e.g., Richins & Dawson, 1992). Using these types of scales, researchers have found that materialism is more common in individuals of low socio-economic status (SES; e.g., Flouri, 2004) – individuals from lower social classes and with greater economic insecurity place greater emphasis on materialistic pursuits. One explanation for this association is that individuals living in disadvantaged social situations often experience feelings of insecurity and low levels of personal autonomy, leading them to seek security and a sense of control through extrinsic pursuits such as image, popularity, and financial and material acquisitions (Deci & Ryan, 2000; Kasser, Ryan, Zax, & Sameroff,
Across the lifespan, materialism follows a curvilinear pattern, with the highest levels seen in middle age and the lowest in old age (Belk, 1985).

While consumer and economic researchers tend to focus on material possessions and profit in their conceptions of materialism, psychological researchers have taken a broader perspective on the concept, adding extrinsic value orientations and extrinsic aspirations to the definition of materialism. *Intrinsic* values and goals are those that lead people to engage in activities and experiences likely to satisfy their psychological needs and promote their well-being (e.g., affiliation, self-acceptance). *Extrinsic* values and goals are those that are engaged in as a means to another end and depend on the contingent reactions of others (Kasser & Ryan, 1996). Kasser and Ahuvia (2002) specify three extrinsic aspirations that comprise materialism: the valuation of financial success, popularity/social recognition, and image/appealing appearance (see also Kasser & Ryan, 1996). The pursuit of these three goals centre on obtaining external approval and rewards and do not provide satisfaction in and of themselves; rather, their desirability comes from the sense of worth and power derived from attaining them.

Although the capitalist and consumerist culture of Western societies promotes materialism, this type of value orientation comes at a cost to self-esteem, autonomy, and overall well-being and life satisfaction (see Kasser et al., 2007). In both adult and college samples, the importance of extrinsic aspirations for financial success, an appealing appearance, and social recognition predicted lower self-actualization (e.g., self-knowledge, feeling of fulfillment) and vitality and greater physical symptoms (e.g., headaches; Kasser & Ryan, 1996). Sheldon, Ryan, Deci, and Kasser (2004) found that both extrinsic goal *content* (i.e., ‘what’ one pursues) and extrinsic goal *motives* (i.e. ‘why’ one pursues those goals) contributed to prospective changes in well-being in a one year longitudinal study. Similar negative outcomes are related to materialism
in adolescence, including anxiety and lower levels of happiness and self-esteem (Kasser, 2005). The psychological costs of materialism are not constrained to Western societies; in a Singaporean sample, Kasser and Ahuvia (2002) found that materialistic value orientations predicted lower happiness and vitality and increased anxiety and physical symptoms.

The Structure of Values

One explanation for the psychological costs of materialistic value orientations is that these aspirations are in direct conflict with the intrinsic values and goals that promote psychological health and well-being. Specifically, materialism is inversely related to collectively-oriented values (Burroughs & Rindfleisch, 2002) and inversely related to the prosocial values of universalism and benevolence (Schwartz & Sagiv, 1995). Richins and Dawson (1992) found that highly materialistic individuals were less likely to report warm relations with others as an important value compared to other values such as financial security. Similarly, Burroughs and Rindfleisch (2002) found that materialism was negatively associated with three collective-oriented values: community values, family values, and religious values. Further, stress and anxiety were highest in individuals reporting high levels of both materialism and collective-oriented values, as compared to those high in only one of these sets of values, suggesting that materialistic values are psychologically incompatible with collectively-oriented values. The self-focusing and individualistic orientation that comes with materialism interferes with the ability to simultaneously hold values requiring an orientation or concern for others.

1 Although materialism is inversely related to collectively-oriented values such as family and community values, there is not necessary a negative association between collectivism and materialism. In fact, when materialistic pursuits are considered at the family level instead of the individual level (e.g. the status conferred to one’s family by achievements or possessions) materialism is just as prevalent in collectivist samples as in individualist samples (Ger & Belk, 1990)
Richins and Dawson (1992) argue that materialism is a value system in direct opposition to prosocial virtues, resulting from its focus on individualistic rather than societal or other-oriented concerns. Research linking materialism to lower prosocial values has stemmed largely from Schwartz’s (1992) work on the structure of basic human values. Schwartz has identified ten general value types that form the foundation of human values across cultures; these values are: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security (Schwartz, 1992; Schwartz & Sagiv, 1995). Schwartz discovered that these values form a circumplex organized along two dimensions. The first dimension, labeled self-enhancement versus self-transcendence, describes the degree to which values are self-oriented (e.g., power, achievement) versus other-oriented (e.g., benevolence, universalism). The second dimension, labeled openness to change versus conservation, describes the degree to which values emphasize change (e.g., stimulation) versus preservation of the status quo (e.g., conformity). The idea of the circumplex is that values closer to one another (i.e. adjacent) are more likely to co-occur whereas values further away from one another (i.e. opposite one another) are less likely to co-occur as they are in direct conflict with one another. Figure 1 presents the model of relations among the ten values as confirmed by large-scale, cross-cultural research (Schwartz, 1992; Schwartz & Sagiv, 1995; Schwartz & Boehnke, 2004).

Of the ten basic values identified by Schwartz, universalism and benevolence represent the two prosocial value orientations. Universalism refers to the tolerance and protection of all people and of nature, and includes the values of social justice and equality. Benevolence refers to the preservation and enhancement of the welfare of those people with whom one has frequent contact, and includes the values of honesty, forgiveness, and loyalty (Schwartz & Sagiv, 1995). As can be seen in Figure 1, these two values are in direct opposition with the two self-
Figure 1. Schwartz’s value circumplex

NOTE: Figure taken from Schwartz and Boehnke (2004)
enhancement values of power and achievement. Power encompasses values of social status and prestige, and control or dominance over people and resources. Achievement refers to personal success through demonstration of competence according to social standards (Schwartz & Sagiv, 1995). These two self-enhancement values, with their focus on personal success, social status, and control of resources, are highly materialistic in nature.

Indeed, empirical research has shown that measures of materialism are closely related to Schwartz’s self-enhancement values. Burroughs and Rindfleisch (2002) found that materialism (measured as the value placed on acquisition of material objects) was closely associated with self-enhancement; multi-dimensional scaling was used to place materialism within Schwartz’s circumplex and it was shown to be located in close proximity to power and achievement. Similarly, Karabati and Cemalcilar (2010) found strong evidence of associations between materialism and self-enhancement values, with the highest coefficient between materialism and power (out of all ten values). This positive association between self-enhancement values and other measures of materialism has been confirmed in US, Canadian, and German samples (Kilbourne, Grünhagen, & Foley, 2005).

Assessing basic values using Schwartz’s Value Survey, researchers have been able to show an inverse relation between materialism and prosocial values. For example, Schwartz’s self-transcendent, prosocial values (universalism and benevolence) are negatively related to materialism (measured as the importance of possessions to the individual; Kilbourne et al., 2005). Schwartz and Sagiv (1995) found that values for wealth, social recognition, being ambitious, being successful, and preserving public image were in direct opposition to the values of benevolence and universalism. Thus, the extant literature shows a link between materialistic, self-enhancement values and lowered prosocial, collectively-oriented value orientations.
Effects on Interpersonal Relationships

Placing low importance on collective-oriented values and prosocial values appears to have negative consequences for the interpersonal relationships of those individuals who are high in materialism. Materialism is viewed as detrimental to interpersonal relationships and is associated with a disregard for others and for social issues (Fournier & Richins, 1991). Individuals valuing materialistic pursuits report less loving and more conflicted relationships with romantic partners and friends (Kasser & Ryan, 2001). They also tend to be more competitive, detached, and manipulative in their interactions with others (Sheldon, Sheldon, & Osbaldiston, 2000; McHoskey, 1999). For example, in social dilemma games that require participants to choose between cooperating with group members and “getting ahead” of group members, individuals who value the materialistic, extrinsic aspirations of financial success, image, and popularity are more likely to choose the option that will put themselves ahead of group members instead of cooperating and providing benefit for the entire group (including themselves; Sheldon et al., 2000).

Although research has identified deficits in the interpersonal relationships of materialistic college students and adults (with their romantic partners, friends, or unknown others), very little research to date has examined the impact of materialism within the parent-child relationship. A few studies have explored links between aspects of parenting and children’s development of materialistic values; for example, Flouri (2004) found that materialism in a sample of 11- to 19-year-old adolescents (i.e., desire for wealth and belief that happiness derives from wealth) was negatively linked to mother involvement and positively linked to inter-parental conflict. However, little research has explored how parent’s materialism influences parenting and child outcomes (Flouri, 2007). In one study of British parents of secondary school children, Flouri
(2007) demonstrated that parent materialism was associated with psychological distress in mothers and with parenting stress and marital conflict in fathers, even after controlling for SES and other family structural variables (e.g., employment status). Parental materialism was also associated with parent reports of children’s emotional and behavioral problems (e.g., conduct problems, peer relationship problems, prosocial behavior), suggesting that parenting based on a materialistic value orientation (whether caused by or resulting in parental stress) has a negative impact on children. When parents are focused on materialistic goals and values there are many potential aspects of children’s social and emotional development that could be affected.

Based on the strong evidence for links between materialism and prosocial values, the present research focused on adolescent moral development as the outcome of interest. It was hypothesized that possessing materialistic values would impact several aspects of parental socialization that relate to adolescent moral development. In particular, the characteristics typical of materialistic individuals suggest that the interactions these parents have with their children, and the resulting impact on moral development, may be impaired as compared to less materialistic parents. Firstly, materialistic individuals are overly concerned with demonstrating power over others; and secondly, materialistic individuals tend to remain detached and emotionally unavailable in their relations with others.

**Materialism, Parenting, and Moral Development**

Parental materialistic values are expected to influence the way that parents interact with and socialize their adolescents. As outlined above, research based on Schwartz’s value circumplex has found that materialism is closely related to Schwartz’s power value (Burroughs & Rindfleisch, 2002). Individuals who value power have a need for control or dominance over
people or resources (Schwartz, 1992). This could suggest that parents who hold materialistic values may be more likely to use a controlling and dominating parenting style as part of their need to show power and authority over others. While many social domains may be influenced by parent materialism, parent-child interactions in the moral domain stand to be affected by parents’ need for power based on research linking power to rule-based moral reasoning and moral hypocrisy. Research by Lammers and colleagues (Lammers & Stapel, 2009; Lammers, Stapel, & Galinsky, 2010) has shown a link between power and the way people reason about moral dilemmas. Thinking or reasoning about moral dilemmas can be classified into one of two types (Beauchamp, 2001). Firstly, there is rule-based \(^2\) (deontological) moral reasoning, in which the rightness or wrongness of an act is judged based on the degree to which the act complies with existing laws, norms, and rules. In other words, an act is inherently right or wrong, irrespective of specifics of the circumstances. Secondly, there is outcome-based (consequentialist) moral reasoning, in which the rightness of an act is not determined by the degree to which it fits with existing rules, but by looking at the consequences of that act. With this type of reasoning, rule violations are justified if they serve a greater good (Beauchamp, 2001).

Lammers and Stapel (2009) report that individuals in power, or who want power, rely on rule-based moral reasoning; actions are viewed as inherently right or wrong with no consideration of situational contexts or consequences. When parents respond to children’s misbehavior, it is critical that they take into consideration the situational context as they determine the appropriate disciplinary reaction (e.g., Grusec & Davidov, 2010). This ability may be impaired in materialistic parents based on their use of rule-based reasoning – they will base

\(^2\) The term “rule-based moral reasoning” is used throughout in order to maintain consistency with terminology used by Lammers and colleagues; however, this should be considered synonymous with “heteronomous moral reasoning” (a term more frequently used in developmental psychology).
punishment solely on rules and not appeal to the consequences of the child’s behavior on others (i.e. inductive reasoning). Further, by not taking situational factors into consideration, parent actions will be perceived as overbearing by children and adolescents.

Power-valuing people also tend to hold others to higher moral standards than people who place less value on power and are less tolerant of moral transgressions by others. At the same time, powerful people are themselves more likely to transgress moral standards or view this as acceptable when considering their own behavior (Lammers et al., 2010). Therefore, materialistic parents (who will tend to have an orientation towards power) may hold their children quite strictly to moral standards while at the same time setting a less than proper moral example. When their children violate moral rules, these strict views of materialistic parents towards moral transgressions may lead them to respond more punitively than parents who are less materialistic.

In addition to a need for power, the second means through which parent materialism is expected to influence child moral development is through a lack of emotional availability and responsiveness. Materialistic people report less loving and more conflicted relationships with romantic partners and friends (Kasser & Ryan, 2001). They also tend to be more detached and emotionally distant in their interactions with others (McHoskey, 1999). Further, McHoskey (1999) found that individuals who placed high value on financial success scored lower on measures of social interest, indicating less desire to interact with others and engage in activities with others as compared to individuals who places less emphasis on financial success. Materialism negatively correlates with positive affect and positively correlates with negative affect and depressive symptoms (Christopher, Kuo, Abraham, Noel, & Linz, 2004), further supporting the idea that materialistic parents may be less able to provide emotional support to their children. As noted above, research specifically looking at the interpersonal effects of
materialism in a sample of parents shows that parent materialism is associated with psychological distress in mothers and with parenting stress and marital conflict in fathers (Flouri, 2007). Parents experiencing personal distress are less likely to be emotionally available and responsive to the distress and needs of their adolescents. Finally, the financial and achievement aspirations of materialistic parents may lead to more time spent at work and less time spent at home or with the family, making them physically unavailable to their children. Promislo, Deckop, Giacalone, and Jurkiewicz (2010) found a positive association between materialism and work-family conflict; materialistic values led to work interference with family, which was partially explained by work overload.

Thus, parents high in materialism are expected to be less emotionally supportive and responsive and to use more controlling and dominating techniques with their adolescents in both disciplinary and non-disciplinary contexts as compared to parents low in materialism. Based on what existing literature shows about the importance of both emotional responsiveness and autonomy encouragement to moral development (detailed below), the parenting style of materialistic parents was expected to have a negative effect on adolescent moral indicators (e.g., prosocial moral reasoning, empathy, prosocial behavior). The predicted associations between parent materialism and adolescent morality will be further explicated by next reviewing the existing literature on moral socialization and adolescent moral development. Finally, a framework for assessing parenting behaviors as mediators of this association will be detailed.

**Moral Socialization**

During the process of socialization, parents aim to bring about socially-appropriate behaviors, emotions, and cognitions; in the moral domain, socialization includes the promotion
of prosocial behaviors, empathy, and other-oriented types of moral reasoning while reducing antisocial behaviors. Adolescence represents a time of substantial cognitive and social change; the identity exploration that characterizes this period makes adolescents more vulnerable to values messages from parents and other socialization agents than during childhood (Steinberg & Silk, 2002). Increases in both positive, prosocial behaviors and negative, antisocial behaviors that occur during adolescence (Windle, 2000; Eisenberg & Morris, 2004) suggest that this represents an important stage for studying moral development. Despite the increased size of adolescents’ social network, as compared to childhood, parents remain a fundamental influence during this time (Steinberg & Silk, 2002). For this reason, the present research focused on moral development in adolescence.

**Value internalization.** Encouragement of adolescents’ value *internalization* is a particularly important part of moral socialization as socially-appropriate behaviors and responses can occur for a variety of reasons, ranging from a fear of punishment to a true identification with the underlying values. Theorists generally have argued that successful socialization involves internalization of these values, that is, that behavior in accord with a particular value should be performed willingly rather than out of fear of negative consequences or an expectation of reward (Hoffman, 1977). Deci and Ryan’s (2000) self-determination theory suggests that moral behavior will be influenced by the extent to which moral values are internalized by the individual.

Self-determination theory argues that values which are fully internalized and integrated into the self-concept are more likely to elicit behavior for intrinsic reasons than values which are only partially internalized. Integration occurs when values are assimilated to the self and brought into congruence with the other values that comprise the self. When values are fully internalized, behavior following from these ideals is spontaneous and natural (Deci & Ryan, 2000). Similarly,
the differing motivations individuals possess for engaging in behavior (e.g. passive compliance vs. active personal commitment) is seen as a reflection of the degree to which the relevant value has been internalized and integrated to the self. In other words, the extent to which moral concerns are integrated and internalized will impact motivation to engage in moral behavior.

The existing research on parenting and value internalization is focused largely on childhood, and only a few studies have begun to explore the aspects of parenting that predict value internalization in adolescence; however, certain dimensions of parenting that promote and detract from value internalization have been identified. While controlling, over-bearing structure is associated with more external and less autonomous moral regulation, parents who are highly involved with their adolescents and provide autonomy support are likely to foster more internalized and autonomous moral regulation (Hardy, Padilla-Walker, & Carlo, 2008). When adolescents accurately perceive and understand the parents’ values, through autonomy-supportive interactions, adolescents are more likely to internalize parent values (Padilla-Walker, 2007).

**Influence of parent materialism.** Value internalization in the adolescents of materialistic parents is expected to be low based on the use of strict control in disciplinary and non-disciplinary contexts. Materialistic parents’ need to demonstrate power and control over other people is expected to result in lower levels of autonomy encouraging parent behaviors, leading to adolescents’ external regulation of morality (rather than internalization).

**Moral reasoning.** Moral reasoning refers to the way that individuals think about and understand morality; children initially reason about moral dilemmas based on self-interested perspectives but, with advances in cognitive abilities, come to reason based on considerations of
mutual interpersonal expectations and social contracts and eventually universal ethical principles (Kohlberg, 1984). In childhood, parent use of power assertion during parent-child discussions of the child’s past misbehavior relates to lower levels of child moral reasoning about hypothetical vignettes (Kochanska, Aksan, & Nichols, 2003). High levels of inductive reasoning and low levels of power assertive techniques relate to higher moral reasoning in children (Janssen, Janssens, & Gerris, 1992). When mothers use reasoning during conflict management between siblings in early childhood, children show higher levels of moral reasoning three years later (Dunn, Brown, & Maguire, 1995). In adolescence, many researchers have begun to look at prosocial moral reasoning as an indicator of positive development. Prosocial moral reasoning refers to reasoning about moral dilemmas in which one’s needs conflict with those of another in the absence of formal prohibitions or obligations (Eisenberg, 1986) and is also predicted by parent use of inductions (Janssens & Gerris, 1992). Further, parental positive affect, support, and responsiveness within the parent-child relationship longitudinally predicts prosocial moral reasoning in adolescence (Carlo, Mestre, Samper, Tur, & Armenta, 2010). Care reasoning (the balanced consideration of both the self and another) in adolescents is predicted by parent use of autonomy-encouraging practices; further, incremental changes in care reasoning from age 16 to 20 years is predicted by parents’ emphasis on caring when teaching values (obtained through stories of value learning; Pratt, Skoe, & Arnold, 2004).

**Influence of parent materialism.** Parent use of inductions and reasoning is expected to be influenced by parent materialism, based on the association between materialism and rule-based moral reasoning (Lammers & Stapel, 2009). This type of reasoning in materialistic parents will lead to lower levels of inductive reasoning following misbehaviour and during non-disciplinary discussions, resulting in less advanced moral reasoning in adolescents.
**Empathy.** Empathy is a multidimensional construct that includes both affective and cognitive components (Eisenberg & Fabes, 1998). Empathy includes the affective appraisal of another person’s emotional state, resulting in compassion and sympathy, and the cognitive process of perspective-taking (Hoffman, 1984; Eisenberg & Fabes, 1998). Krevans and Gibbs (1996) report that parents’ use of inductive reasoning during discipline situations relates to higher levels of empathy in early adolescents. Similarly, parent use of inductive reasoning predicts the moral emotions – a composite score of sympathy, empathic anger, guilt, and shame - of mid- to late adolescents (Laible, Eye, & Carlo, 2008). Carlo, McGinley, Hayes, Batenhorst, and Wilkinson (2007) measured specific parenting practices and found that parent use of conversations, experiential learning (e.g., enrolling child in charitable activities), and social rewards (e.g., praise, gratitude) predicted adolescent empathic concern and perspective-taking. Parents who are more knowledgeable and effective at responding to their children’s negative emotions and distress also promote empathy development in their children and adolescents. Mothers’ accuracy about what distresses their children predicts their early adolescents’ empathy (Vinik, Almas, & Grusec, 2011), and Davidov and Grusec (2006) found that parents’ responsiveness to distress was positively correlated with children’s empathy. Finally, parents’ own levels of empathy, sympathy, and perspective-taking relate to these same outcomes in their children and adolescents (Barnett, King, Howard, & Dino, 1980; Soenens, Duriez, Vansteenkiste, & Goossens, 2007).

**Influence of parent materialism.** Parent materialism is expected to relate to low levels of parent responsiveness to distress, including empathy and sympathy, and this will result in lower levels of adolescent empathy. When empathic concern is not modeled for adolescents they may be less likely to display that reaction themselves; additionally, parents who do not appropriately
comfort distressed children make it less likely that these children will learn the emotion regulation skills critical for empathy development (Eisenberg, 2000). Thus, the lowered responsiveness to distress of materialistic parents is expected to result in low levels of adolescent empathy.

**Moral behavior.** Moral behavior encompasses positive actions that benefit others such as helping, sharing, and caring, labeled *prosocial behavior*, and negative actions that harm others such as stealing, cheating, and lying, labeled *antisocial behavior*. Researchers have found that parent use of power assertive discipline predicts lowered prosocial conduct and heightened antisocial conduct in children (Kochanska et al., 2003). Power assertive and harsh parenting is known to predict aggression, conduct problems, violence, and delinquency during adolescence (Gershoff, 2002; Caples & Barrera, 2006). Strict and controlling parenting may lead to lower levels of adolescent prosocial behavior due to a lack of value internalization, as harsh punishment is viewed as detrimental to internalized, autonomous value regulation (e.g., Hoffman, 1983). Instead, reasoning and guidance provide children and adolescents with the understanding that allows values and standards to be truly internalized, resulting in behavior that is autonomously motivated (Grusec, 2011). Attachment and affection within the parent-child relationship have been linked to adolescent prosocial behavior (Eberly & Montemayor, 1998). Parents who are responsive to their children’s needs are more likely to express and model well-regulated moral emotions, facilitating child and adolescent development of prosocial behaviors (Eisenberg & Murphy, 1995; Carlo et al., 2007).

**Influence of parent materialism.** The use of strict and controlling parenting techniques in disciplinary and non-disciplinary contexts by materialistic parents is expected to relate to low levels of prosocial behavior and high levels of antisocial behavior in adolescents. When parents
threaten adolescent autonomy, as is expected of materialistic parents, adolescents will have less internalized regulation of moral behavior resulting in fewer instances of moral action. Additionally, the lowered emotional responsiveness of materialistic parents could also contribute to decreased moral behavior in adolescents.

**Summary.** Previous research demonstrates that there are many ways in which parenting is related to adolescent moral development. In general, parents who use inductive reasoning and avoid power assertion, in both disciplinary and non-disciplinary contexts, promote their adolescents’ moral development. Adolescent moral behavior and moral reasoning are related to parent use of autonomy encouraging practices and avoidance of coercion and force. Parent responsiveness to distress is important for the development of adolescent empathy. It was expected that many of these aspects of parenting would be influenced by the extent to which parents hold materialistic values and aspirations.

The association between parent materialism and adolescent moral development was hypothesized in the present study to be mediated by parenting behaviors. In order to test this hypothesis, a domains of socialization framework was used to conceptualize and organize potential parenting mediators, with a focus on parenting practices rather than global parenting style.

**Domains of Socialization**

In the past, Baumrind’s (1971, 1978) typology of parenting styles has been useful for describing the sort of parenting that successfully socializes children into society, as it classifies parenting based on the two dimensions of responsiveness (to child’s needs) and structure/control. Authoritative parents grant autonomy, provide emotional support, set standards, and use clear
and bidirectional communication patterns, and this style of parenting has been established as a predictor of many positive child outcomes. Parenting styles that are less effective for socialization are those that are overly harsh and strict without providing warmth and support, or those that are responsive to children’s needs but lack structure and discipline (Baumrind, 1971, 1978).

More recently, researchers have recognized the importance of differentiating between specific parenting practices and global parenting styles (Darling & Steinberg, 1993). Parenting styles (e.g., authoritative) refer to a constellation of attitudes communicated to the child, creating an emotional climate within which specific parenting practices occur. Parenting practices tend to be more domain-specific and goal-oriented than parenting styles (Darling & Steinberg, 1993). Thus, parenting practices seem more likely to emerge as mediators of the relation between parent materialism and adolescent moral development, rather than global parenting style or context.

One theory, designed to organize domain-specific parenting practices, is the domains-of-socialization framework (Bugental & Goodnow, 1998; Bugental & Grusec, 2006; Grusec & Davidov, 2007). Essentially, the mechanisms of socialization and corresponding child outcomes can be partitioned into five domains, each requiring unique responses from parents or other socialization agents. While parenting style refers to global patterns across contexts, the domains-of-socialization framework identifies 5 different types of specific parenting behaviors. Grusec and Davidov (2010) have identified these five domains as: control, protection, mutual reciprocity, guided learning, and group participation. Three of these domains (control, protection, and guided learning) are particularly relevant to moral socialization (for reasons discussed below) and may mediate the relation between parent materialism and adolescent morality.
Control domain. The control domain requires that caregivers respond to children’s misbehavior without threatening their autonomy, resulting in self-regulation if executed successfully. In this domain, parent and child goals are in conflict, and the parent uses his or her authority to modify the behavior of the child. This may include withdrawal of rewards and privileges, physical punishment, social disapproval, and use of social and material rewards (Grusec & Davidov, 2010). Appropriate parenting in the control domain requires that parents do not threaten the child’s sense of autonomy; if successful, children will learn to inhibit their own conflicting goals in order to do the right thing and will do this for internalized reasons (e.g., they believe the action is inherently correct). Most research on parenting in relation to moral development has centered on the control domain and the way in which discipline for misbehavior is administered, with firm control accompanied by reasoning seen as most effective (Maccoby, 2007).

Inappropriate parenting in the control domain could include a lack of structure and discipline, or the use of too much structure and discipline. When parents use power assertive techniques, such as coercion, threats, and force, children and adolescents’ autonomy is threatened, and these parenting techniques have been shown to relate to lower levels of prosocial behavior, higher antisocial behavior, and lower moral reasoning in children (Kochanska et al., 2003). Appropriate parenting in the control domain includes the use of fair and consistent discipline following misbehaviour (e.g., removal of privileges, verbal disapproval) and the use of other-oriented, inductive reasoning. These parenting behaviors predict higher levels of moral development in adolescence (Laible et al., 2008). The focus on power and domination by materialistic parents is expected to lead to low scores on appropriate control domain parenting.
as they will be more likely to use power assertive techniques rather than inductive reasoning techniques, resulting in lower levels of adolescent moral development.

**Protection domain.** The protection domain requires caregivers to respond in sensitive ways to children’s distress, and child outcomes of successful caregiving are emotion regulatory skills and trust in the caregiver. This domain is triggered by cues that the child is under real or potential threat, leading the child to seek help and support from the parent. Appropriate parenting in the protection domain includes provision of comfort and help and alleviation of distress; determining the appropriate response requires parents to understand what comforts their child, based on factors such as developmental status and temperament (Grusec & Davidov, 2010). When parents respond sensitively and appropriately to children’s needs, children come to trust that parents have their best interests at heart (Bowlby, 1969); this trust, in turn, allows children to learn to understand the distress of others and to react in a sympathetic way.

Inappropriate parenting in the protection domain includes an inability to respond to the emotional distress of the child and a lack of comfort-provision. Appropriate parenting in the protection domain includes responsiveness to child’s needs, such as providing comfort, help, and advice, and empathy. Parents who score higher in responsiveness have adolescents who report greater internalization of moral values (Hardy et al., 2008). Parent empathy contributes to child moral development as parents who model empathy promote empathy development in their child. Early research found that parents’ self-reported use of empathy in interactions with their 4-6 year-old child was related to the child’s levels of empathy (Barnett et al., 1980), and more recently Soenens et al. (2007) found that mothers’ sympathy and perspective taking predicted their 15-18 year-old adolescents’ levels of sympathy and perspective taking. Materialistic parents are expected to be less empathic and less responsiveness to their child’s distress due to their high
self-focus at the expense of interpersonal relationships, resulting in lower levels of adolescent moral development.

**Guided learning domain.** The guided learning domain refers to scaffolded teaching of skills and principles in a developmentally-appropriate way, and child outcomes of successful caregiving are internalized standards of behavior. This domain encompasses conversation or supported learning (e.g., storytelling) that occurs in the absence of misbehavior, conflict, or distress. Appropriate parenting in the guided learning domain involves the provision of structure, strategies, information, and feedback that children need in order to learn and improve their skills (Grusec & Davidov, 2010). As scaffolding promotes children’s comprehension and awareness of the parent’s conception of issues, discussion can promote a deep understanding and identification with values in a way that other socialization approaches may not.

A considerable amount of research exists demonstrating the importance of parent-child discussions as a context for moral socialization. Through these interactions, parents have the opportunity to provide guidance and advice that supports and develops children’s understanding of moral and character issues (Turner & Berkowitz, 2005). In particular, cognitive moral development, such as moral reasoning, develops largely as a result of verbally mediated social interactions regarding moral issues (Berkowitz, 1985). Walker and colleagues (Walker & Taylor, 1991; Walker & Hennig, 1999; Walker, Hennig, & Krettenauer, 2000) examined moral development in the context of parent-child discussions of moral dilemmas and demonstrated that the development of moral reasoning in children (aged 5-15 years) was predicted by characteristics of these discussions. While discussing hypothetical and real life moral dilemmas, parents who took a child-centred approach by eliciting the child’s opinion, checking for understanding, and prompting elaboration with appropriate probing questions (labeled as a
representational style) were most effective in fostering moral reasoning development (Walker & Hennig, 1999; Walker et al., 2000). In contrast, parent use of cognitively challenging, critical, and highly opinionated styles (labeled as an operational style) hindered children’s moral reasoning development (Walker & Hennig, 1999).

Thus, moral reasoning is fostered when parents use an autonomy-granting style and guide children to arrive at conclusions on their own; an over-controlling and critical approach to discussing moral issues interferes with the development of moral reasoning, likely as a result of the lack of autonomy support inherent to this style (i.e., children view the parents’ perspective as forced upon them rather than intrinsically generated). Materialistic parents are expected to use more inappropriate parenting techniques in the guided learning domain (e.g., operational style) due to their focus on control and domination at the expense of appropriate parenting techniques (e.g., representational style), resulting in lower levels of adolescent moral development.

Additional domains. Beyond the three above domains, two additional domains have been described by Grusec and Davidov (2010). The group participation domain requires caregivers to provide appropriate models and opportunities for routines and rituals, resulting in willing engagement in socially conventional behaviors. However, the absence of processing of information may work against the internalization of values in this domain and once questioned, values and behaviors learned in this domain may be more prone to rejection (Bourdieu, 1977). The mutual reciprocity domain requires caregivers to respond to children’s reasonable requests, resulting in willing compliance on the part of the child and mutually accommodating actions on the part of the child and the socializing agent. The mutual reciprocity domain sets up the conditions of an exchange relationship between parent and child resulting in the child’s cooperation with parental requests (Grusec & Davidov, 2010); however, this may or may not
generalize to relationships with others and children’s compliance with parental requests may occur for more or less internalized reasons. Thus, the present research focused on the three domains that seemed most pertinent to moral development: control, protection, and guided learning.

**Materialism and domains of socialization.** The domains of socialization framework provides a means of describing domain-specific parenting behaviors, and it is hypothesized that materialism will influence parenting within the three domains outlined above. In the control domain, materialistic parents are expected to use punitive and strict disciplinary techniques rather than the more appropriate techniques of reasoning and firm but non-harsh discipline. Similarly, in the guided learning domain, materialistic parents are expected to use punitive and controlling techniques in non-disciplinary contexts. When discussing moral issues, materialistic parents are expected to exert dominance rather than foster adolescent autonomy. Finally, in the protection domain, the self-focused nature of materialistic parents and their tendency to be emotionally distant in interpersonal relationships suggests they may be less effective at responding to the emotional distress of their adolescents and setting up the conditions for adolescent comfort- and advice-seeking.

**The Present Study and Summary of Hypotheses**

In the present research, a sample of mothers and fathers completed assessments of materialistic values and aspects of their parenting. Their adolescents were assessed on both self-report and behavioral measures of moral development. The primary research question was whether, as compared to parents low in materialism, parents high in materialism have adolescents with lower levels of moral development. An additionally important question was
whether this association is mediated by parenting behaviors. The characteristics typical of materialistic individuals suggest that the interactions these parents have with their children, and the resulting impact on moral development, may be impaired as compared to less materialistic parents. Firstly, materialistic individuals are overly concerned with demonstrating power over others; and secondly, materialistic individuals tend to remain detached and emotionally unavailable in their relations with others.

Mothers and fathers provided self-reports of their parenting competencies in two domains of socialization (protection and control) and mothers were observed while discussing moral dilemmas with their adolescent in order to obtain guided learning domain scores. Mothers’ interview responses in reaction to empathy-eliciting videos were used as an additional measure of the protection domain. The hypotheses were as follows:

1. Parent materialism will be related to adolescent morality; specifically, parent materialism will predict lower scores on adolescent moral development indicators.

2. The relation between parent materialism and adolescent morality will be mediated by parenting scores in the control, protection, and guided learning domains. Specifically, it is hypothesized:

   a. Parent materialism will correlate positively with power assertive, and negatively with reasoning-based, disciplinary techniques in the control domain, resulting in low scores of adolescent moral behavior.

   b. Parent materialism will correlate negatively with parent responsiveness to distress and parent empathy in the protection domain, resulting in lower adolescent empathy and empathic moral reasoning.
c. Parent materialism will correlate positively with use of a controlling and self-focused interaction style during moral discussions in the guided learning domain, resulting in low scores of moral behavior and empathic moral reasoning.

Method

Participants

Participants in this study were 105 adolescents, their mothers, and 76 of their fathers. These families were recruited from Toronto, Ontario, Canada and its surrounding area using a database of family contact information maintained by the University of Toronto. Mothers with adolescents between the ages of 12 and 15 years were contacted by telephone and provided with a description of the study. Mother and adolescent dyads interested in participating were then scheduled for an on-campus session. All mothers were asked to provide contact information for their adolescent’s father and, whenever possible, fathers completed an online questionnaire from home prior to the mother’s and adolescent’s participation. Questionnaires were not completed by 29 of the potential 105 fathers. In two cases there was no father involved in the child’s life. In the remaining cases, the fathers were too busy or were not interested in participating.

Adolescents (56 male, 49 female) ranged in age from 12 to 15 years old (M = 13.65, SD = 0.95). Mothers (M age = 46.83, SD = 4.10) were primarily of European ethnic origin (78.1%), with the remaining mothers reporting East Asian origins (11.4%), multiple ethnic origins (5.7%), or other backgrounds (4.8%). All mothers had completed high school and 55.2% had completed college or university; 83.8% of mothers were employed. Fathers (M age = 48.49, SD = 4.30) were also primarily of European origin (81.6%), with the remaining fathers originating from East
Asia (11.8%) or other backgrounds (6.6%). Only one father had not completed high school, and 59.2% of fathers had completed college or university; 92.1% of fathers were employed.

Parents who were employed reported their occupations through open-ended response. The responses were then categorized using the O*NET job zone classification system (O*NET Online 12.0; Peterson & Sager, 2010). The O*NET database is widely and frequently used by economic and sociological researchers studying the labor market and a broad range of related topics. The current database includes 1,102 occupations and is aligned with the Standard Occupational Classification (SOC) system (Tippins & Hilton, 2010). The O*NET coding system groups occupations into one of five categories based on levels of education, experience, and training necessary to perform the occupation and average job income. Zone 1 indicates little to no preparation required whereas Zone 5 requires extensive preparation. In the present sample, mothers’ occupations were classified as follows: 3.5% in Zone 1; 9.3% in Zone 2; 23.3% in Zone 3; 37.2% in Zone 4; and 26.7% in Zone 5. Fathers’ occupations were classified as follows: 0.0% in Zone 1; 12.1% in Zone 2; 25.8% in Zone 3; 45.5% in Zone 4; and 16.7% in Zone 5.

In terms of family composition, 76.2% of mothers were married and 78.1% reported that they were currently living with the biological father of the child participating in the study. In the present sample of fathers, 85.5% were married and 89.5% reported that they were currently living with the biological mother of the child participating in the study. Of the 25 mothers who were separated, divorced, or single, 16 were able to secure the father’s participation. Only 14.3% of adolescents reported that they did not have any siblings. Of those who reported siblings, 72.2% had one sibling, 23.3% had two siblings, 3.3% had three siblings, and 1.1% had four siblings.
Measures

Mothers and fathers completed questionnaire assessments of materialism (extrinsic aspirations and self-enhancement values) and parenting (control, protection, and guided learning domains). The domains of socialization framework has only recently emerged and as a result there is no existing standard measure of each domain. For the present research, specific items, subscales of existing measures, and behavioral tasks were selected and used to measure the three domains of interest. Mothers and fathers completed questionnaire assessments of the protection and control domains. Mothers’ empathy (protection domain) and mothers’ interaction style during moral discussion (guided learning domain) were assessed through behavioral tasks.

Parent materialism: extrinsic aspirations. The first measures of materialism used in the study were the three materialism subscales of the Aspiration Index (AI, Grouzet et al., 2005). The AI assesses the intrinsic and extrinsic goals that individuals have for the future. The three materialism subscales of the AI – financial success, popularity, and image – have previously been reported to correlate with other measures of materialism such as Richins and Dawson’s (1992) materialism scale and Ger and Belk’s (1996) measure of materialistic attitudes and beliefs (Kasser & Ahuvia, 2002) and can be used independently from the full AI to measure the construct of materialistic aspirations (e.g., Goldsmith & Clark, 2012).

Both mothers and fathers completed the 12-item self-report materialism subscales. Each parent was asked to rate how important each item was to him or herself on a scale from 1 (not at all important) to 7 (extremely important). The four financial success items were: “That I will be financially successful,” “That I will have many expensive possessions,” “That I will have enough money to buy everything that I want,” and “That I will have a job that pays well.” The three
popularity items were: “That I will be admired by many people,” “That my name will be known by many different people,” and “That most everyone who knows me likes me.” The five image items were: “That I will keep up with fashions in clothing and hair,” “That my image will be one others find appealing,” “That I will achieve the “look” I’ve been after,” “That people will often comment about how attractive I look,” and “That I will successfully hide the signs of aging.” The three subscales were highly inter-correlated (mothers: $r$ range = .41 to .67, $p$’s < .001; fathers: $r$ range = .54 to .61, $p$’s < .001) and reliability for all 12 items was high (mother Cronbach’s alpha = .88; father Cronbach’s alpha = .90). Thus, for mothers and for fathers all 12 items were used to create an overall measure of extrinsic aspirations. Summed scores on each of the three subscales were averaged to reach a total extrinsic aspirations score.

**Parent materialism: self-enhancement values.** Materialism was also measured with the 21-item Portrait Values Questionnaire (PVQ; Schwartz, 2003; Verkasalo, Loonqvist, Lipsanen, & Helkama, 2009) which assesses respondents’ orientations towards ten basic values (power, achievement, hedonism, stimulation, self-direction, benevolence, universalism, tradition, conformity, security). These ten values form a circumplex organized around motivational similarities and dissimilarities on two dimensions: self-transcendence vs. self-enhancement, and openness to change vs. conservation. Materialistic values fall within the “self-enhancement” quadrant, comprised of the values for Power and Achievement in Schwartz’s model (Burroughs & Rindfleisch, 2002; see Figure 2).

Parents in the present study completed all 21 items of the PVQ in order to assess the relative importance of these self-enhancement values. Each item presents the description of a gender-matched individual and participants rate how similar they are to that person on a 6-point scale from 1 (not like me at all) to 6 (very much like me). Each of the 10 values is represented in
Figure 2. Location of materialism within Schwartz’s value circumplex

NOTE: Figure adapted from Burroughs and Rindfleisch (2002)
two items/portraits, other than Universalism which has three items. The two Achievement items are: “It is very important to him to show his abilities. He wants people to admire what he does” and “Being very successful is important to him. He likes to impress other people.” The two Power items are: “It is important to her to be rich. She wants to have a lot of money and expensive things” and “It is important to her to be in charge and tell others what to do. She wants people to do what she says.” All 21 items of the PVQ are presented in Appendix A.

First, scores for each value were obtained by averaging the scores assigned to the items comprising each value. Next, the overall mean on all 21 items was computed. This mean was then subtracted from each of the ten value scores in order to obtain the relative importance ascribed to each value. Scores of mother and father self-enhancement values were calculated by summing the relative scores on the two values of Power and Achievement. The reliability and validity of the 21-item PVQ have been previously established, particularly for dimension scores (e.g., self-enhancement versus individual value scores; Verkasalo et al., 2009).

**Parent protection domain: protection items.** Mothers and fathers completed a questionnaire aimed at determining their effectiveness in the protection domain. This 5 item scale was created for the current study, based on the work of Grusec and Davidov (2010). Parents were asked to rate “How descriptive is each sentence of you in your parenting of your child?” The five items were rated on a scale from 1 (not at all) to 5 (extremely), and are as follows: “When my child is hurt or frustrated, it can be difficult for me to support him/her and show him/her that I care” (reverse scored); “My child knows that he/she can talk to me about any problem, and in fact approaches me for help when troubled or distressed”; “When my child is upset about something I think it’s better to ignore it because this way the upset tends to go away on its own” (reverse scored); “I get very flustered and don't know how to respond when I see my
child crying or distressed” (reverse scored); and “I give comfort and understanding when my child is upset.”

These items were selected and adapted from frequently-used measures of parenting styles and behaviors: the Child-Rearing Practices Report (CRPR; Block, 1965) and the Parenting Styles and Dimensions Questionnaire (PSDQ; Robinson, Mandleco, Olsen, & Hart, 2001). Inter-item reliability was high for both mothers (Cronbach’s alpha = .71) and fathers (Cronbach’s alpha = .73). After reverse coding where appropriate, the five items were averaged to create an overall protection score for mothers and for fathers.

**Parent protection domain: empathy.** Empathy was measured following a similar methodology to that of Krevans and Gibbs (1996). Mothers were shown two empathy-inducing video clips, each approximately two minutes long. The first clip depicted a boy being told by his parents that his best friend had died, and the second clip showed a girl talking about a group of girls at school who had cyber-bullied her and embarrassed her in front of her peers. In both videos, the protagonist was visibly distressed. Following each viewing, a semi-structured interview was used to assess mothers’ emotional reactions to the video. The following questions were asked: 1) “Can you give me your reaction to what you just saw?” 2) “What emotions did the video make you feel?” 3) “Why do you think it made you feel that way?” If more than one emotion was reported, question 3 was asked in reference to each emotion (e.g. “Why do you think it made you feel sad?” followed by “Why do you think it made you feel angry?”). Additional interview questions were asked but were not analyzed in the present study.

These interviews were audio-recorded and later transcribed. A coding scheme was developed based on the conceptual distinction between low-level empathy - the affective
appraisal of another person’s emotional state, and high-level empathy that includes both affective appraisal and the cognitive process of perspective taking (Hoffman, 1984; Eisenberg & Fabes, 1998). Coding categories that reflected this distinction were derived from the cognitive progression through Strayer’s Empathy Continuum (EC) coding system, a previously validated measure of empathy (Strayer, 1989; Strayer & Shroeder, 1989). Based on the responses that were provided in the present study, Strayer’s seven levels were condensed into three categories and the additional category of “personal distress” was added.

Mothers were classified into one of four categories based on their responses to each video. No emotion (scored as 1; EC levels 1 and 2) referred to the mothers who reported experiencing no emotional reaction to the video. Personal distress (scored as 2) was coded when mothers reported feeling anxious, nervous, or scared, or their emotional response was otherwise self-oriented (e.g., “I felt scared that it might happen to my child”). Low-level empathy (scored as 3; EC levels 3 and 4) was coded when mothers reported an emotional response oriented toward the protagonist and attributed the emotion to the video event or to the character’s situation (with no perspective-taking; e.g., I thought it was sad because his friend died and the parents weren’t very supportive.”). High-level empathy (scored as 4; EC levels 5-7) was only coded when mothers used some type of perspective-taking to explain their emotional response, such as transposition of self into the situation, association to own experiences, or reference made to character’s internal states (e.g., “If that happened to me I would be absolutely devastated,” “A similar situation happened to me and I know what it feels like”).

Two coders were trained on the coding categories and used a small subset of transcripts to discuss and resolve any initial disagreements. The primary coder then coded all transcripts while the secondary coder coded a random sample of 35% of the transcripts. Inter-rater
reliabilities for mother empathy scores were kappas of .84 and .75 for videos 1 and 2, respectively. Only the primary coder’s scores were used in the analyses. Empathy scores in response to the two different videos were correlated \( r = .23, p = .03 \); therefore, the two empathy scores were summed to create a final empathy score ranging from 2 to 8.

**Parent control domain.** Mothers and fathers were assessed on three dimensions of the control domain: non-reasoning/punitive strategies, directiveness, and democratic participation. These dimensions represent three of the 11 subscales assessed by the Parenting Styles and Dimensions Questionnaire (PSDQ; Robinson et al., 2001). The full 62-item PSDQ was designed to measure the self-reported parenting practices associated with authoritarian, authoritative, and permissive parenting. For the purposes of the present research, two authoritarian subscales (non-reasoning/punitive strategies and directiveness) and one authoritative subscale (democratic participation) were selected from the PSDQ to represent the control domain and parents completed the self-report items from these subscales.

The Non-reasoning/Punitive Strategies subscale includes 6 items: “I punish by taking privileges away from my child with little if any explanations,” “I punish by putting my child off somewhere alone with little if any explanation,” “I use threats as punishment with little or no justification,” “When two children are fighting, I discipline the children first and ask questions later,” “I appear to be more concerned with my own feelings than with my child’s feelings,” and “When my child asks why he or she has to conform, I state: because I said so, or I am your parent and I want you to.” The Directiveness subscale includes 4 items: “I tell my child what to do,” “I demand that my child do things,” “I scold and criticize to make my child improve,” and “I scold or criticize when my child’s behavior doesn’t meet my expectations.” The Democratic Participation subscale includes 5 items: “I allow my child to give input into family rules,” “I take
my child’s desires into account before asking him/her to do something,” “I take into account my child’s preferences in making plans for the family,” “I encourage my child to freely express him/herself when disagreeing with parents,” and “I channel my child’s misbehaviors into a more acceptable activity.”

The reliability and validity of the PSDQ and its subscales have been demonstrated in previous research (Robinson et al., 1996). Across cultures, the PSDQ parenting styles differentially predict developmental outcomes in children (Robinson et al., 1996). In the present sample, the Cronbach’s alphas for the three subscales were as follows: non-reasoning/punitive strategies, .72 (mothers) and .69 (fathers); directiveness, .71 (mothers) and .70 (fathers); and democratic participation, .70 (mothers) and .68 (fathers).

**Parent guided learning domain.** Each mother and adolescent dyad was left alone in a room for 10 minutes with instructions to discuss two hypothetical moral dilemmas. These conversations were audio-recorded, transcribed and coded. Every mother utterance was coded according to a modified version of the Developmental Environments Coding System (DECS; Powers, 1988; Walker & Taylor, 1991). Initially developed by Powers, the DECS assesses every conversational turn based on its function to the discussion, essentially measuring whether utterances are cognitively or affectively stimulating or interfering to the discussion. The DECS was adapted by Walker and colleagues (Walker & Taylor, 1991; Walker & Hennig, 1999; Walker et al., 2000) and condensed into 5 interaction types: operational, representational, informative, supportive, and interfering, plus the additional category of miscellaneous.

*Operational* speeches operate on the reasoning of another, including critiques, competitive clarifications, and counterconsiderations. *Representational* speeches elicit or re-
present the reasoning of another, including paraphrasing, requests, and comprehension checks. *Informative* speeches entail the sharing of opinions, including opinions, agreements, disagreements, and requests for change. *Supportive* speeches indicate positive affect and encouragement to participate, including listening responses, and humor. *Interfering* speeches indicate negative affect and interfere with sustained discussion, including refusals, distortions, threats, and distractions. Finally, *miscellaneous* speeches are unclear and incomplete statements.

In the present study, mothers were provided with two moral dilemmas to read to their adolescent (see Appendix B). The first dilemma presented a conflict between monetary gain and keeping one’s word (Nunner-Winkler, Meyer-Nikele, & Wohlrab, 2007; Malti & Buchmann, 2010), while the second dilemma presented a more complex conflict between keeping a promise to a best friend and being kind to a new student in school (Keller, 1984; Keller, Edelstein, Schmid, Fang, & Fang, 1998). The dyads had five minutes to discuss each dilemma and decide what would be the right thing to do in that situation. Dyads were also provided with discussion questions to use at their own discretion to help guide the conversation. The mother and adolescent were left alone in a room during the discussion and their conversation was audio-recorded and later transcribed. Both moral dilemmas and the discussion questions for each are presented in Appendix B. The second dilemma was gender-matched to the adolescent.

Construct validity of the DECS has been established in previous research showing meaningful associations to ego functioning (Walker et al., 2000) and between family verbal interactions and adolescent ego development (Powers, Hauser, Schwartz, Noam, & Jacobson, 1983). Two coders were trained on the coding scheme and used a small subset of transcripts to discuss and resolve any initial disagreements. Next, the primary coder coded all of the discussion transcripts while the secondary coder coded a random sample of 35% of the transcripts. Inter-
rater reliability was calculated as the intra-class correlation (ICC) between the two coders’ frequencies for each of the six categories (ICC range = .71 to .96, for dilemma 1; ICC range = .86 to .93, for dilemma 2). Only the primary coder’s scores were used in the analyses. In order to create final scores for each interaction type, all six categories were summed to create a total number of speeches. Frequencies of each category were then divided by the total sum in order to create proportion scores for each interaction type. The proportion scores for all styles were correlated across the two dilemmas (r range = .26 to .39, all p’s < .01) so scores for each style were calculated as the average of the two dilemma scores.

**Adolescent measures.** Adolescents completed multiple questionnaire and behavioral measures of moral development: empathy, prosocial moral reasoning, internalization, helpfulness, and antisocial behavior.

**Empathy.** Adolescent empathy was assessed following the same procedure used to assess mother empathy. Adolescents were shown the same two empathy-inducing video clips that mothers were shown. Following each viewing, the same three interview questions used to assess mother empathy were asked; however, follow-up probes were used to a greater extent in order to obtain as much information in the responses as possible (e.g., “Can you tell me a bit more about why the video made you feel that way?” “You felt sorry for whom?”). Adolescent responses were audio-recorded and later transcribed. Adolescent empathy was coded using the same system as for mothers (range 1 to 4).

Two coders were trained on the coding system and used a small subset of transcripts to discuss and resolve any initial disagreements. Next, the primary coder coded all 105 transcripts while the secondary coder coded a random sample of 35% of the transcripts. Inter-rater
reliabilities for adolescent empathy were kappas of .76 and .77 for videos 1 and 2, respectively. Only the primary coder’s scores were used in the analyses. Scores on the two videos were correlated ($r = .32$, $p = .001$) so a final adolescent empathy score was created by summing these two scores.

**Prosocial moral reasoning.** Adolescent prosocial moral reasoning was coded from the moral dilemma discussion transcripts described above (used to code mother interaction style). A coding scheme was created based on Eisenberg’s five levels of prosocial moral reasoning (Eisenberg, Lennon, & Roth, 1983). These conceptual categories of reasoning have proven valid in both interview and questionnaire assessments (Eisenberg et al., 1983; Carlo, Eisenberg, & Knight, 1992; Eisenberg, Carlo, Murphy, & van Court, 1995). *Hedonistic* reasoning involves a concern with self-oriented consequences, such as direct gain to the self and future reciprocity. *Needs of others* reasoning involves a concern for the physical, material and psychological needs of others even though the needs of the other conflict with one’s own needs. *Approval/stereotyped* reasoning involves a concern with the acceptance or approval of others and stereotyped images of what is considered “good” and “bad.” *Empathic* reasoning involves sympathetic responding, role-taking, and guilt or positive affect resulting from the consequences of one’s actions. Finally, *internalized* reasoning results from internalized values and norms and the desire to uphold individual and societal obligations, with positive or negative affect relating to whether one lives up to one’s own values and beliefs.

In the present study, the transcripts resulting from the dyadic discussions of the dilemmas presented in Appendix B were scored for adolescent use of the five above categories. Adolescents received a score on each level of reasoning based on the following values: 1 = no use of category; 2 = vague use of category; 3 = clear use of category; 4 = a major type of
reasoning used. The two dilemmas were scored individually. Two coders were trained on the coding system and used a small subset of transcripts to discuss and resolve any initial disagreements. The primary coder coded all transcripts while the secondary coder coded a random sample of 35% of the transcripts. Inter-rater reliabilities for the 5 styles of prosocial reasoning were kappas ranging from .80 to .86 and .79 to .84 for dilemmas 1 and 2, respectively. Only the primary coder’s scores were used in the analyses. Scores for each type of reasoning were correlated between the two dilemmas (r range = .49 to .55, all p’s < .001) so a final score for each reasoning type was calculated as the average of the two dilemma scores.

**Internalization.** Internalization of prosocial values was assessed using Ryan and Connell’s (1989) Prosocial Self-Regulation Questionnaire (PRQ-P) which requires adolescents to rate five reasons (varying along a continuum of extrinsic to intrinsic motivation) why he or she engages in five positive behaviors (either prosocial behavior or refraining from antisocial behavior). The five reasons represent three forms of regulation: external (behavior is regulated by others), introjected (regulation of behavior is only partially internalized), and identified (behavior is accepted as personally important). The five positive behavior items are: Why do you keep a promise to friends?; Why do you not make fun of another child for making a mistake?; Why don’t you hit someone when you’re mad at them?; Why do you try to be nice to other kids?; and Why would you help someone who is in distress? Examples of each type of reasoning that followed the items are as follows: “Because I’ll get in trouble if I don’t” (external); “Because I will feel bad about myself if I don’t” (introjected); and “Because I think it’s important to be a nice person” (identified). The entire PRQ-P, with all five reasons for each of the five stems, is presented in Appendix C.
Mean scores on each type of regulation (extrinsic, introjected, and identified) were obtained by averaging the ratings of each type of reasoning across all five items. As is typically done by researchers using this type of measure (e.g., Grolnick & Ryan, 1989; Hardy et al., 2008) a relative autonomy (internalization) score was obtained by weighting the scores on all types of regulation and summing. The weights for the types of regulation were as follows: extrinsic (-2), introjected (-1), and identified (+2). The validity of the PRQ-P has been previously established as scores on this scale predict empathy, moral judgment, and positive relatedness to others (Ryan & Connell, 1989).

**Helpfulness.** As a measure of helpfulness, participants were asked if they could assist the interviewer’s friend by alphabetizing a pile of forms. Specifically, they were given the choice of playing an enjoyable online game, or alphabetizing the forms to help out the unknown friend. The helpfulness measure was presented by the interviewer as follows:

“In the next part of the study you can play a Super Mario adventure game online. I will bring that up on the computer for you now. All the kids who have played it have said it’s a lot of fun. The other thing is that I was just talking to my friend in the next room and she has a lot of work that she needs someone to help with. This work needs to be finished in an hour and she will get in trouble if it’s not done. You just need to put all these forms in alphabetical order by the name on the top. I will leave the forms right here on the table for you. The choice is up to you – you can play the game or you can help my friend by sorting the forms, or you could do a little of both. I will be back soon to let you know when we have to move on to the next task.”

Participants were left alone for five minutes and their behaviour was observed through a one-way mirror (covered on the interview side of the room by sheer drapes to discourage
suspicion). The pile of forms started out in the exact same order for all participants, ensuring equal difficulty. The amount of time that adolescents spent sorting forms was taken as the measure of helpfulness (range: 0 mins to 5 mins). Nine of the adolescents were able to sort the entire pile of forms before the 5 minutes was up, and these adolescents were given a score of 5. Only 14 of the 105 adolescents did not help at any point during the five minutes.

**Antisocial behavior.** Adolescent self-reported antisocial behavior was measured with an 18-item scale created for this study. Items were selected from various existing measures of youth antisocial behavior (e.g., Cho, Martin, Conger, & Widaman, 2010; Achenbach, 1991) in order to create an age-appropriate assessment of relatively common, minor antisocial behaviors (e.g., lying, littering, skipping class). Adolescents were asked to think about the last one month and indicate how many times in the last month they engaged in each behavior on a 5-point scale from *never* to *six or more times*. The entire scale is presented in Appendix D. As the inter-item reliability was high (Cronbach’s alpha = .84), an overall score was obtained by summing the scores on all 18 items.

**Procedure**

Once mother and adolescent dyads were recruited over the telephone, fathers were contacted with an email containing a description of the study, a consent form, and a link to the online questionnaire. They were asked to complete the questionnaire prior to the mother and adolescent’s participation and to not discuss anything in the questionnaire until all family members had completed participation. Upon arriving at the lab, mother and adolescent were greeted by two interviewers and given a brief explanation about what the lab visit involved. All interviewers were undergraduate or graduate students and the interviewer assigned to the
adolescent was always female. The interviewer assigned to the mother alternated between male and female interviewers.

The interviewers explained that there were no right or wrong answers to any of the questions they would be asked, that their responses would be confidential, and that they were free to refrain from answering any questions they did not wish to answer, as well as free to withdraw from the study at any time. Both mothers and adolescents read and signed an informed consent at this time as well (see Appendix E). They were then taken to separate rooms to complete the first set of questionnaires.

**Adolescent procedure.** Adolescents began the questionnaire assessments and were left to complete these in private. Adolescents completed a demographic questionnaire, the PRQ-P, and additional questionnaires not analyzed in this research. The interviewer then showed the adolescent the two empathy videos and implemented the interview script after each video while audio-recording the responses. Once completed, the interviewer began the helpfulness assessment (sorting forms vs. playing online game) and left the room. Upon returning to the room after five minutes of observation, the interviewer instructed the adolescent to complete the next set of questionnaires: the PVQ, self-reported antisocial behavior, and additional questionnaires not analyzed in this research. At this point, the mother and other interviewer entered the room for the mother-adolescent moral discussion.

**Mother procedure.** Once mothers began the questionnaire assessments they were left to complete these in private. Mothers completed a demographic questionnaire and the three control domain PSDQ subscales. The interviewer then showed the mother the two empathy videos and implemented the interview script after each video while audio-recording the responses. The
mothers then completed the second set of the questionnaires: self-report of extrinsic pursuits, the PVQ, protection domain items, and additional questionnaires not analyzed in the present research. Upon completion, the mother was taken to join the adolescent where the discussion task was described. The dyad was left alone in the room with an audio recorder during each discussion. After the discussion time was complete, both interviewers entered the room and fully debriefed both participants. Adolescents were given $10 compensation for their participation.

Results

Following preliminary analyses, the results are presented in accord with initial hypotheses. First, the relations between materialism and adolescent morality are presented. Next, correlations among potential parenting mediators and the independent and dependent variables are examined. Finally, based on significant associations in the prior analyses, models of parenting as a mediator in the relation between parent materialism and adolescent moral outcomes are presented.

Preliminary Analyses

**Data screening.** Ranges, means, and standard deviations for all of the variables in the study are presented in Table 1. Prior to data analysis, all variables were screened for normality with skewness and kurtosis statistics and histogram plots. A number of variables were found to be skewed and, as suggested by Howell (2007), only those with histograms showing clear deviations from a normal distribution were transformed. Based on the guidelines of Tabachnick and Fidell (2007) and Howell (2007), square root transformations were used for moderately skewed data and logarithmic (log 10) transformations were used for substantial skewness. Adolescent hedonistic and internalized reasoning were positively skewed and square root
Table 1. Descriptive Statistics for All Study Variables

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**FATHER VARIABLES**

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*Protection Parenting*

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*Control Parenting*

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Transformations improved normality. A logarithmic transformation on adolescent approval/stereotyped reasoning, also positively skewed, improved normality. The three least frequent DECS mother interaction styles – operational, supportive, and interfering – were positively skewed and normality was improved with square root transformations. While transformed data were used in the following analyses, it should be noted that none of the reported findings were changed when the raw data for these variables was used.
**Missing father data.** Of the 105 families participating in the study, father data was available for 76 of them. To examine potential differences between the mothers and adolescents for whom father data was available and those for whom it was not available, a series of t-tests were conducted using father data available (yes/no) as the grouping variable and all continuous mother and adolescent demographic and study variables as the test variables. Chi-square analyses were used for categorical variables. None of these tests was significant. Thus, mothers and adolescents without father data did not differ significantly from those with father data available.

**Missing interview data.** For one mother-child dyad, a fire drill interrupted the moral dilemma discussion and data were lost for this family; thus, the analyses relevant to the parent-child discussion are reported for only 104 families. Additionally, the empathy interview data for one mother were lost because of poor audio quality; as a result, the analyses relevant to mother empathy are reported for 104 families.

**Data reduction.** Due to the large number of adolescent outcome variables, and in order to establish that the various measures group together in a way that is consistent with the study hypotheses, a factor analysis was used in order to condense these indicators of moral development. Table 2 presents the correlations of all adolescent variables entered into the analysis: helpfulness, internalization, empathy, antisocial behavior, and the five types of prosocial reasoning (hedonistic, needs of others, approval/stereotyped, empathic, and internalized). A principal components analysis resulted in three factors with eigenvalues greater than 1, accounting for a combined 66.69% of the variance in the adolescent moral variables. Varimax rotation was used for variable interpretation, and the rotated component matrix of factor loadings is presented in Table 3. Variables loading highly on the first factor (eigenvalue = 3.50;
Table 2. Correlations among Adolescent Moral Outcomes

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<th>EMP</th>
<th>ANT</th>
<th>HE-R</th>
<th>NE-R</th>
<th>AS-R</th>
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<td>.33**</td>
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<td>Empathic Reasoning (EM-R)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.83**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalized Reasoning (IN-R)</td>
<td>-</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

NOTE: * = correlation is significant at the .05 level; ** = correlation is significant at the .01 level
Table 3. Rotated Component Matrix for Factor Analysis on Adolescent Moral Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helpfulness</td>
<td>-.01</td>
<td>.61</td>
<td>.09</td>
</tr>
<tr>
<td>Internalization</td>
<td>.08</td>
<td>.75</td>
<td>-.01</td>
</tr>
<tr>
<td>Empathy</td>
<td>.45</td>
<td>.39</td>
<td>.23</td>
</tr>
<tr>
<td>Antisocial Behavior</td>
<td>-.26</td>
<td>-.55</td>
<td>.35</td>
</tr>
<tr>
<td>Hedonistic Reasoning</td>
<td>-.65</td>
<td>-.31</td>
<td>.40</td>
</tr>
<tr>
<td>Needs of Others Reasoning</td>
<td>.88</td>
<td>-.01</td>
<td>-.25</td>
</tr>
<tr>
<td>Approval Reasoning</td>
<td>-.08</td>
<td>-.15</td>
<td>-.85</td>
</tr>
<tr>
<td>Empathic Reasoning</td>
<td>.91</td>
<td>.12</td>
<td>.07</td>
</tr>
<tr>
<td>Internalized Reasoning</td>
<td>.90</td>
<td>.07</td>
<td>.15</td>
</tr>
</tbody>
</table>

38.91% of total variance) were empathy, needs of others reasoning, empathic reasoning, internalized reasoning, and (negatively loaded) hedonistic reasoning; this factor was labelled Empathic Reasoning. Variables loading highly on the second factor (eigenvalue of 1.26; 14.00% of total variance) were helpfulness, internalization, and (negatively loaded) antisocial behavior; this factor was labelled Prosocial Behavior. The only variable loading on the third factor (eigenvalue = 1.24; 13.79% of total variance) was approval/stereotyped reasoning, which loaded negatively. These scores were inverted (multiplied by -1) and this factor was labelled Approval
Orientation. Factor scores on these three factors were used as the indicators of adolescent moral development in the analyses reported below.

A factor analysis was also run on the five mother DECS interaction style scores – operational, representational, informative, supportive, and interfering – for the purposes of data reduction. A principal components analysis resulted in three factors with eigenvalues greater than 1, accounting for a combined 81.40% of the variance in DECS scores. Varimax rotation was used for variable interpretation, and the rotated component matrix of factor loadings is presented in Table 4. Variables loading highly on the first factor (eigenvalue = 1.77; 35.30% of total variance) were representational style and informative style (negatively loaded); this factor was labelled Representational Style. Variables loading highly on the second factor (eigenvalue of 1.25; 24.92% of total variance) were operational style and interfering style; this factor was labelled Operational-Interfering Style. The only variable loading on the third factor (eigenvalue = 1.06; 21.18% of total variance) was supportive style, so this factor was labelled Supportive Style. Factor scores on Representational Style, Operational-Interfering Style, and Supportive Style were used as the indicators of mother interaction style during guided learning in the analyses reported below.

**Control variables.** One-way ANOVAs were used to explore potential gender differences in the three adolescent moral factors (empathic reasoning, prosocial behavior, and approval orientation). Prosocial behavior differed significantly by gender, \( F (1, 103) = 5.90, p = .02; \) females (M = .25) scored higher on prosocial behavior than males (M = -.22). Empathic reasoning did not differ by gender, \( F (1, 103) = 0.13, p = .72; \) nor did approval orientation, \( F (1, 103) = 0.08, p = .77. \) Correlations were used to explore potential age differences in the three adolescent moral factors. Adolescent age was negatively correlated with empathic reasoning (\( r = \)}
Table 4. Rotated Component Matrix for Factor Analysis on Mother Interaction Styles

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational</td>
<td>.16</td>
<td>.82</td>
<td>.17</td>
</tr>
<tr>
<td>Representational</td>
<td>.93</td>
<td>-.13</td>
<td>-.17</td>
</tr>
<tr>
<td>Informative</td>
<td>-.88</td>
<td>-.28</td>
<td>-.25</td>
</tr>
<tr>
<td>Supportive</td>
<td>.01</td>
<td>-.05</td>
<td>.96</td>
</tr>
<tr>
<td>Interfering</td>
<td>-.07</td>
<td>.76</td>
<td>-.22</td>
</tr>
</tbody>
</table>

-.26, $p = .01$). Adolescent age did not correlate with prosocial behavior ($r = .10, p = .34$) or approval orientation ($r = .04, p = .72$). As a result, gender was controlled for in the prosocial behavior analyses and age was controlled for in the analyses of empathic reasoning.

Correlations among mother age and job zone (as an indicator of SES) and father age and job zone with all adolescent moral factors and all parenting variables were examined. Mother age correlated positively with approval orientation ($r = .20, p = .05$); older mothers had adolescents who were more likely to reason with an approval orientation. Thus, mother age was controlled for in analyses of adolescent approval orientation. No other correlations were significant.

Although SES was not correlated with any study variables, the significant link between SES and materialism found in previous studies warranted special consideration as a control variable. In preliminary analyses, all multivariate analyses presented below were run with and without SES as a control variable. The inclusion of SES (job zone score) as a control did not change any of
the findings, thus in the interest of parsimony SES was omitted from the final models. However, it is worth noting that all results remained true after controlling for parent SES.

**Self-enhancement versus extrinsic aspirations.** Two different measures of materialism were included in the present study: self-enhancement values (power, achievement) and extrinsic aspirations (financial success, image, popularity). Extrinsic aspirations and self-enhancement values were correlated for mothers ($r = .32$, $p = .02$) and for fathers ($r = .61$, $p < .001$); however, preliminary analyses indicated that these variables were differentially related to parenting and to adolescent morality so the two materialism variables were analyzed independently. Below, the hypotheses are tested first using self-enhancement values as the materialism indicator, and then in the subsequent section the same analyses are repeated except that extrinsic aspirations are used to indicate materialism.

Data on fathers’ parenting were collected only for protection and control (non-reasoning/punitive, directiveness, and democratic participation) parenting, and not for interaction styles or empathy. Zero-order correlations between the two materialism variables and all parenting variables are presented in Table 5.

**Self-Enhancement**

**Adolescent moral factors.** The first hypothesis was that parent self-enhancement would predict adolescent moral development. Parent self-enhancement was expected to predict lower scores on adolescent empathic reasoning and prosocial behavior, and higher scores on approval orientation. Zero-order correlations among the adolescent moral factors and parent self-enhancement are presented in Table 6. As seen in the top left corner of Table 6, the adolescent moral variables were orthogonal factor scores and were, therefore, uncorrelated with one
Table 5. Correlations among Materialism and Parenting for Mothers (highlighted) and Fathers

<table>
<thead>
<tr>
<th></th>
<th>SE</th>
<th>EA</th>
<th>PD</th>
<th>NRP</th>
<th>D</th>
<th>DP</th>
<th>E</th>
<th>OIS</th>
<th>RS</th>
<th>SS</th>
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<tbody>
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<td>.32*</td>
<td>-.23*</td>
<td>.22*</td>
<td>.06</td>
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<td>-.02</td>
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<td>.61**</td>
<td></td>
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<td>-.02</td>
<td>.02</td>
<td>.03</td>
<td>-.20*</td>
<td>.06</td>
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<td>-.39**</td>
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<td>-.27**</td>
<td>-.03</td>
<td>.01</td>
<td>-.01</td>
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<tr>
<td>D</td>
<td>.23*</td>
<td>.23*</td>
<td>-.33**</td>
<td>.48**</td>
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<td>-.05</td>
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<td>-.01</td>
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<td>.29*</td>
<td>-.25*</td>
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<td>-.18</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>.00</td>
</tr>
</tbody>
</table>

* = correlation is significant at the .05 level; ** = correlation is significant at the .01 level

NOTE: correlations for mothers presented in top triangle (in grey), correlations for fathers in bottom triangle

EA = Extrinsic Aspirations; SE = Self-Enhancement; PD = Protection Domain; NRP = Non-Reasoning/Punitive; D = Directiveness; DP = Democratic Participation; E = Empathy; OIS = Operational-Interfering Style; RS = Representational Style; SS = Supportive Style
Table 6. Correlations among Materialism and Adolescent Moral Factors

<table>
<thead>
<tr>
<th></th>
<th>A-ER</th>
<th>A-PB</th>
<th>A-AO</th>
<th>M-SE</th>
<th>M-EA</th>
<th>F-SE</th>
<th>F-EA</th>
</tr>
</thead>
<tbody>
<tr>
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<td>.00</td>
<td>.09</td>
<td>.02</td>
<td>-.13</td>
<td>-.08</td>
</tr>
<tr>
<td>Adolescent Prosocial Behavior (A-PB)</td>
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<td>.00</td>
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<td>.07</td>
<td>.03</td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>Adolescent Approval Orientation (A-AO)</td>
<td>-</td>
<td>.11</td>
<td>.23*</td>
<td>.08</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother Self-Enhancement (M-SE)</td>
<td>-</td>
<td>.32**</td>
<td>-.17</td>
<td>-.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother Extrinsic Aspirations (M-EA)</td>
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<td>.25**</td>
<td>.38**</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father Self-Enhancement (F-SE)</td>
<td>-</td>
<td>.61**</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Father Extrinsic Aspirations (F-EA)</td>
<td></td>
<td></td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: * = correlation is significant at the .05 level; ** = correlation is significant at the .01 level

another. Six linear regressions (three for mothers, three for fathers) were used to predict each factor from parent self-enhancement. As prosocial behavior differed by gender and empathic reasoning differed by age (as noted above), these demographic variables were entered as control variables. Additionally, mother age was controlled for in the regression predicting approval orientation.

The regression predicting adolescent empathic reasoning from adolescent age and mother self-enhancement was significant, $F(2, 101) = 3.31, p = .04 (R^2 = .07; effect size, $f^2 = .07$), but adolescent age was the only significant predictor ($\beta = -.25, t(102) = -2.42, p = .02$). The regression predicting adolescent empathic reasoning from adolescent age and father self-
enhancement was not significant, $F(2, 72) = 1.88, p = .16 (R^2 = .05; \text{effect size}, f^2 = .05)$. Thus, parent self-enhancement was not related to adolescent empathic reasoning.

The regression predicting adolescent prosocial behavior from gender and mother self-enhancement was significant, $F(2, 101) = 4.86, p = .01 (R^2 = .10; \text{effect size}, f^2 = .11)$; gender ($\beta = .24, t(102) = 2.42, p = .02$) and mother self-enhancement ($\beta = -.20, t(102) = -2.01, p = .05$) were both significant predictors in the model. Mothers high in self-enhancement had adolescents who scored lower on prosocial behavior. The regression predicting adolescent prosocial behavior from gender and father self-enhancement was not significant, $F(2, 72) = 1.83, p = .17 (R^2 = .05; \text{effect size}, f^2 = .05)$. Similarly, the regression predicting approval orientation from mother self-enhancement and mother age was not significant, $F(2, 101) = 1.90, p = .16 (R^2 = .04; \text{effect size}, f^2 = .04)$. Similarly, the regression predicting approval orientation from father self-enhancement was not significant, $F(1, 73) = 0.43, p = .51 (R^2 = .01; \text{effect size}, f^2 = .01)$. Thus, parent self-enhancement was not related to approval orientation.

In sum, mother self-enhancement was negatively associated with adolescent prosocial behavior; however, the same relation was not found regarding father self-enhancement. Neither empathic reasoning nor approval orientation was related to parent self-enhancement. Thus, the hypothesis that parent materialism would be related to adolescent morality was only partially confirmed, as only one dimension of adolescent moral development – prosocial behavior – was predicted. Further, this partial confirmation was only found in the sample of mothers and not in the sample of fathers.
**Potential mediators.** The above analyses demonstrate that mother self-enhancement was only predictive of adolescent prosocial behaviour scores, and not empathic reasoning or approval orientation. Thus, correlations among mother self-enhancement and all parenting variables, and among adolescent prosocial behavior and all parenting variables were examined in order to identify potential mediators. The hypothesis was that parenting in both the control and guided learning domains would mediate the association between mother self-enhancement and adolescent prosocial behavior.

Correlations among mother self-enhancement and the maternal parenting variables (protection, non-reasoning/punitive, directiveness, democratic participation, empathy, and the three interaction style factors (operational, representational, and supportive)) can be found in Table 5. Mother self-enhancement correlated negatively with protection domain scores ($r = -0.23$, $p = 0.02$); mothers higher in self-enhancement scored lower on the protection domain items (reflecting responsiveness to distress) than mothers low in self-enhancement. Mother self-enhancement correlated positively with non-reasoning/punitive strategies ($r = 0.22$, $p = 0.02$); mothers high in self-enhancement reported greater use of punitive and non-reasoning strategies than mothers low in self-enhancement. Additionally, mother self-enhancement correlated positively with operational-interfering interaction style ($r = 0.22$, $p = 0.04$); compared to mothers low in self-enhancement, mothers high in self-enhancement were more likely to use an operational-interfering interaction style during moral discussions with their adolescent. No other correlations were significant.

Correlations among adolescent prosocial behaviours and the maternal parenting variables can be found in Table 7. Adolescent prosocial behaviour correlated negatively with mother operational-interfering interaction style ($r = -0.32$, $p = 0.002$); mothers who used a more
Table 7. Correlations among Maternal Parenting and Adolescent Moral Factor Scores

<table>
<thead>
<tr>
<th></th>
<th>AER</th>
<th>APB</th>
<th>AAO</th>
<th>MPD</th>
<th>MNRP</th>
<th>MD</th>
<th>MDP</th>
<th>MOS</th>
<th>MRS</th>
<th>MSS</th>
<th>ME</th>
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</thead>
<tbody>
<tr>
<td>AER</td>
<td>-</td>
<td>.00</td>
<td>.00</td>
<td>.10</td>
<td>.04</td>
<td>-.20*</td>
<td>.15</td>
<td>-.41**</td>
<td>.07</td>
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<td>.19</td>
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<td>.04</td>
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<td>-.27**</td>
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<td>-.01</td>
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<tr>
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<td>.00</td>
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<td></td>
</tr>
</tbody>
</table>

NOTE: * = correlation is significant at the .05 level; ** = correlation is significant at the .01 level

AER = Adolescent Empathic Reasoning, APB = Adolescent Prosocial Behavior, MPD = Mother Protection Domain, MNRP = Mother Non-Reasoning/Punitive, MD = Mother Directiveness, MDP = Mother Democratic Participation, MOS = Mother Operational-Interfering Style, MRS = Mother Representational Style, MSS = Mother Supportive Style, ME = Mother Empathy

Adolescent prosocial behavior also correlated negatively with mother non-reasoning/punitive strategies ($r = -.21, p = 04$); when mothers used more punitive and non-operational-interfering interaction style when discussing moral dilemmas with their adolescent had adolescents scoring lower on prosocial behaviour than mothers who used a less operational-interfering style.
reasoning strategies, adolescents scored lower on prosocial behavior than when mothers used less punitive/non-reasoning strategies. No other correlations were significant.

In the interest of providing a complete picture of the associations among study variables, although no father parenting variables represented viable mediators, correlations between paternal parenting variables and the adolescent moral factors are presented in Table 8. No mediations were possible for fathers as father materialism was not predictive of adolescent moral outcomes (see Table 6); however, father materialism was correlated in various ways with paternal parenting (see Table 5). Father self-enhancement correlated negatively with protection domain parenting ($r = -.27, p = .02$) and correlated positively with directiveness ($r = .23, p = .04$).

**Mediation models.** At the outset, it was hypothesized that the relation between parent materialism and adolescent morality would be mediated by parenting in the control, protection, and guided learning domains. As demonstrated above, mother self-enhancement was predictive of adolescent prosocial behavior but not empathic reasoning or approval orientation; thus, mediation models could only be explored for adolescent prosocial behavior when using mother self-enhancement as the indicator of materialism. Based on the analyses above, two parenting variables represented potential mediators – mother operational-interfering style and mother non-reasoning/punitive strategies.

The mediation models were evaluated using the PROCESS macro for SPSS (Preacher & Hayes, 2004; Hayes, 2013). PROCESS is a computational tool for path analysis based moderation and mediation analysis and it provides many of the capabilities of SOBEL in a single command. In addition to estimating the coefficients of the model using ordinary least squares
Table 8. Correlations among Paternal Parenting and Adolescent Moral Factor Scores

<table>
<thead>
<tr>
<th></th>
<th>AER</th>
<th>APB</th>
<th>AAO</th>
<th>FPD</th>
<th>FNRP</th>
<th>FD</th>
<th>FDP</th>
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</thead>
<tbody>
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<tr>
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<td>-.06</td>
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</tr>
</tbody>
</table>

NOTE: * = correlation is significant at the .05 level; ** = correlation is significant at the .01 level

AER = Adolescent Empathic Reasoning, APB = Adolescent Prosocial Behavior, FCD = Father Control Domain, FPD = Father Protection Domain, FNRP = Father Non-Reasoning/Punitive, FD = Father Directiveness, FDP = Father Democratic Participation

PROCESS modeling was used to evaluate operational-interfering style scores as a mediator of the relation between mother self-enhancement and adolescent prosocial behavior (while controlling for adolescent gender). The overall model was significant, $F (3,100) = 6.22, p = .001$ ($R^2 = .17$; effect size, $f^2 = .20$). Table 9 presents the full mediation output. As can be seen in Table 9, the previously significant direct effect of mother self-enhancement on adolescent
Table 9. Mediation Model with Operational-Interfering Style

<table>
<thead>
<tr>
<th>Predictor</th>
<th>coeff</th>
<th>se</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome: Mother Operational-Interfering Style</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model: $F (2,101) = 2.11, p = .12$ ($R^2 = .04$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescent Gender</td>
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<td>0.21</td>
<td>-0.54</td>
<td>.59</td>
</tr>
<tr>
<td>Mother Self-Enhancement</td>
<td>0.17</td>
<td>0.09</td>
<td>1.96</td>
<td>.05</td>
</tr>
<tr>
<td><strong>Outcome: Adolescent Prosocial Behavior</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model: $F (3,100) = 6.22, p = .001$ ($R^2 = .17$)</td>
<td></td>
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<tr>
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<td>0.19</td>
<td>2.36</td>
<td>.02</td>
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<tr>
<td>Mother Self-Enhancement</td>
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<td>0.08</td>
<td>-1.33</td>
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<tr>
<td>Mother Operational-Interfering Style</td>
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<td>.10</td>
<td>-2.86</td>
<td>.01</td>
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Direct effect of Mother Self-Enhancement on Adolescent Prosocial Behavior

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.11</td>
<td>.08</td>
<td>-1.33</td>
<td>.19</td>
</tr>
</tbody>
</table>

Indirect effect of Mother Self-Enhancement on Adolescent Prosocial Behavior

<table>
<thead>
<tr>
<th>Effect</th>
<th>Boot SE</th>
<th>Boot LLCI</th>
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<tbody>
<tr>
<td>Operational-Interfering Style</td>
<td>-.05</td>
<td>-.14</td>
<td>-.01</td>
</tr>
</tbody>
</table>
prosocial behavior is no longer significant once the effect of mother operational-interfering style is added, indicating a full mediation. The range between the lower level and upper level 95% confidence intervals (obtained through bootstrapping) does not include 0, confirming a significant indirect effect through mother operational-interfering style. This model is presented in Figure 3.

A second model was evaluated using mother non-reasoning/punitive strategies as a mediator of the relation between mother self-enhancement and adolescent prosocial behavior (while controlling for adolescent gender). The overall model was significant, $F(3,100) = 4.01, p = .01 \ (R^2 = .12; \text{effect size}, f^2 = .14)$. Table 10 presents the full mediation output. As can be seen in Table 10, the previously significant direct effect of mother self-enhancement on adolescent prosocial behavior is no longer significant once the effect of mother non-reasoning/punitive strategies is added, indicating a full mediation. Although the effect of mother non-reasoning/punitive strategies was only marginally significant ($p = .08$), the range between the lower level and upper level 95% confidence interval (obtained through bootstrapping) does not include 0, indicating a significant indirect effect on adolescent prosocial behavior. This model is presented in Figure 4.

A final model was run that included both mother operational-interfering style and mother non-reasoning/punitive strategies as simultaneous mediators. The output of this analysis is presented in Table 11. The overall model was significant, $F(4,99) = 5.45, p < .001 \ (R^2 = .20; \text{effect size}, f^2 = .25)$. As seen in Table 11, when both mediators are included simultaneously, the indirect effect of mother operational-interfering style is stronger than that of mother non-reasoning/punitive strategies. The fact that the upper and lower 95% bootstrapping confidence interval for non-reasoning/punitive strategies now includes 0 suggests that the indirect effect
Figure 3. Mediation model for mother operational-interfering style.
Table 10. Mediation Model with Mother Non-Reasoning/Punitive Strategies

<table>
<thead>
<tr>
<th>Predictor</th>
<th>coeff</th>
<th>se</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>**Outcome: **Mother Non-Reasoning/Punitive</td>
<td></td>
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<td></td>
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<tr>
<td>Model: $F(2,101) = 2.49$, $p = .09$ ($R^2 = .05$)</td>
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<tr>
<td>Adolescent Gender</td>
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<td>Mother Self-Enhancement</td>
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<td><strong>Outcome: Adolescent Prosocial Behavior</strong></td>
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<td></td>
</tr>
<tr>
<td>Model: $F(3,100) = 4.01$, $p = .01$ ($R^2 = .12$)</td>
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<tr>
<td>Adolescent Gender</td>
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<td>.20</td>
<td>2.25</td>
<td>.03</td>
</tr>
<tr>
<td>Mother Self-Enhancement</td>
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<td>.09</td>
<td>-1.55</td>
<td>.12</td>
</tr>
<tr>
<td>Mother Non-Reasoning/Punitive</td>
<td>-.42</td>
<td>.25</td>
<td>-1.72</td>
<td>.08</td>
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</table>

Direct effect of Mother Self-Enhancement on Adolescent Prosocial Behavior

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.14</td>
<td>.09</td>
<td>-1.55</td>
<td>.12</td>
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Indirect effect of Mother Self-Enhancement on Adolescent Prosocial Behavior

<table>
<thead>
<tr>
<th>Effect</th>
<th>Boot SE</th>
<th>Boot LLCI</th>
<th>Boot ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Reasoning-Punitive</td>
<td>-.03</td>
<td>-.10</td>
<td>-.001</td>
</tr>
</tbody>
</table>
Figure 4. Mediation model for mother non-reasoning/punitive strategies.
Table 11. Mediation Model with Mother Operational-Interfering Style and Non-Reasoning/Punitive Strategies

<table>
<thead>
<tr>
<th>Predictor</th>
<th>coeff</th>
<th>se</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome: Adolescent Prosocial Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model: $F(4, 99) = 5.45, p &lt; .001 \ (R^2 = .20)$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescent Gender</td>
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<td>.19</td>
<td>2.16</td>
<td>.03</td>
</tr>
<tr>
<td>Mother Self-Enhancement</td>
<td>-.08</td>
<td>.08</td>
<td>-.99</td>
<td>.32</td>
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<tr>
<td>Mother Operational-Interfering Style</td>
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<td>.004</td>
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<tr>
<td>Mother Non-Reasoning/Punitive</td>
<td>-.39</td>
<td>.23</td>
<td>-1.66</td>
<td>.10</td>
</tr>
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</table>

**Direct effect of Mother Self-Enhancement on Adolescent Prosocial Behavior**

<table>
<thead>
<tr>
<th>Effect</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>-.08</td>
<td>.08</td>
<td>-.99</td>
<td>.32</td>
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**Indirect effect of Mother Self-Enhancement on Adolescent Prosocial Behavior**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Boot SE</th>
<th>Boot LLCI</th>
<th>Boot ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>-.08</td>
<td>-.18</td>
<td>-.02</td>
</tr>
<tr>
<td>Operational-Interfering</td>
<td>-.05</td>
<td>-.14</td>
<td>-.003</td>
</tr>
<tr>
<td>Non-Reasoning-Punitive</td>
<td>-.03</td>
<td>-.09</td>
<td>.001</td>
</tr>
</tbody>
</table>
through this mediator is no longer significant once the indirect effect of mother operational-interfering style is included in the model.

In sum, both mother operational-interfering style during moral discussions and mother use of non-reasoning and punitive discipline strategies mediated the association between mother self-enhancement and adolescent prosocial behavior. Mothers high in self-enhancement tended to use non-reasoning and punitive disciplinary strategies and to discuss moral dilemmas in an operational and interfering manner; these parenting techniques in turn contributed to low levels of prosocial behavior in their adolescents. Thus, the hypothesis that parenting in both the control and guided learning domains would mediate the association between parent materialism and adolescent prosocial behavior was confirmed in mothers. Parenting in the guided learning domain was found to be the strongest mediator, as seen when both mediators were entered simultaneously to the same model.

**Extrinsic Aspirations**

The above analyses were run a second time, using parent extrinsic aspirations as the indicator of materialism instead of parent self-enhancement.

**Adolescent moral factors.** The first hypothesis was that parent extrinsic aspirations would predict adolescent moral development. Parent extrinsic aspirations were expected to predict lower scores on adolescent moral empathic reasoning and prosocial behavior, and higher scores on adolescent approval orientation. Zero-order correlations among the adolescent moral factors and parent extrinsic aspirations can be found in Table 6. Six linear regressions (three for mothers, three for fathers) were used to predict each factor from parent extrinsic aspirations. As prosocial behavior differed by gender and empathic reasoning differed by age (as noted above),
these demographic variables were entered as control variables. Additionally, mother age was controlled for in the regression predicting approval orientation from mother extrinsic aspirations.

The regression predicting adolescent empathic reasoning from adolescent age and mother extrinsic aspirations was significant, $F(2, 101) = 3.25, p = .04$ ($R^2 = .07$; effect size, $f^2 = .07$), but adolescent age was the only significant predictor ($\beta = -.26, t(102) = -2.5, p = .01$). The regression predicting adolescent empathic reasoning from adolescent age and father extrinsic aspirations was not significant, $F(2, 72) = 1.66, p = .20$ ($R^2 = .05$; effect size, $f^2 = .05$). Thus, parent extrinsic aspirations were not related to adolescent empathic reasoning.

The regression predicting adolescent prosocial behavior from gender and mother extrinsic aspirations was significant, $F(2, 101) = 3.06, p = .05$ ($R^2 = .06$; effect size, $f^2 = .06$); gender ($\beta = .24, t(102) = 2.38, p = .02$) was the only significant predictor in the model. The regression predicting adolescent prosocial behavior from gender and father extrinsic aspirations was not significant, $F(2, 72) = 1.79, p = .18$ ($R^2 = .05$; effect size, $f^2 = .05$). Thus, parent extrinsic aspirations were not related to adolescent prosocial behavior.

The regression predicting approval orientation from mother extrinsic aspirations and mother age was significant, $F(2, 101) = 3.61, p = .03$ ($R^2 = .08$; effect size, $f^2 = .09$). Mother extrinsic aspirations were a significant predictor of approval orientation ($\beta = .21, t(102) = 2.07, p = .04$). Mothers scoring higher on extrinsic aspirations had adolescents who used more stereotypical and approval-oriented reasoning when discussing moral dilemmas. The regression predicting approval orientation from father extrinsic aspirations was not significant, $F(1, 73) = 0.22, p = .64$ ($R^2 = .003$; effect size, $f^2 = .003$). Thus, mother extrinsic aspirations predicted adolescent approval orientation; however, father extrinsic aspirations did not.
In sum, mother extrinsic aspirations were positively associated with adolescent approval orientation; however, the same relation was not found regarding father extrinsic aspirations. Neither empathic reasoning nor prosocial behaviour was related to parent extrinsic aspirations. Thus, the hypothesis that parent materialism would be related to adolescent morality was only partially confirmed, as only one dimension of adolescent moral development – approval orientation – was predicted. Further, this partial confirmation was only found in the sample of mothers and not in the sample of fathers.

**Potential mediators.** The above analyses demonstrate that mother extrinsic aspirations were only predictive of adolescent approval orientation scores, and not empathic reasoning or prosocial behaviour. Thus, correlations among mother extrinsic aspirations and all parenting variables, and among adolescent approval orientation and all parenting variables were examined in order to identify potential mediators.

Correlations among mother extrinsic aspirations and the maternal parenting variables (protection, non-reasoning, directiveness, democratic participation, empathy, and the three interaction style factors (operational, representational, and supportive)) can be found in Table 5. Mother extrinsic aspirations correlated negatively with mother empathy \( r = -.20, p = .05 \); mothers scoring high on extrinsic aspirations demonstrated less empathy in response to the empathy-eliciting videos than mothers scoring low on extrinsic aspirations. No other correlations were significant.

Correlations among adolescent approval orientation and the maternal parenting variables can be found in Table 7. Adolescent approval orientation correlated negatively with mother supportive style \( r = -.31, p = .002 \); mothers who used a more supportive style during moral
discussions had adolescents who were less likely to base their reasoning on an approval orientation than mothers who used a less supportive style. No other correlations were significant.

Thus, although mother extrinsic aspirations predicted adolescent approval orientation, there were no maternal parenting variables that represented a viable mediator. Therefore, the hypothesis that parenting would mediate the association between parent materialism and adolescent morality was not supported for mother extrinsic aspirations and adolescent approval orientation.

Further, as mentioned above, no mediation models were possible for fathers based on a lack of association between father materialism and adolescent moral factors. As can be seen in Table 5, however, father extrinsic aspirations were predictive of paternal parenting – correlating positively with directiveness \( r = .23, p = .05 \), marginally positively with non-reasoning and punitive strategies \( r = .21, p = .07 \) and marginally negatively with protection parenting \( r = -.21, p = .07 \).

**Summary of Results**

It was hypothesized that parent materialism would predict lower levels of adolescent moral development and that this association would be mediated by parenting behaviors. This hypothesis was partially supported, but only for mothers. Of the three adolescent moral factors, two were predicted by mother materialism: mother self-enhancement related to adolescent prosocial behavior, and mother extrinsic aspirations related to adolescent approval orientation. Parent materialism did not predict empathic reasoning. As for the mediation hypothesis, this was only supported for the mother self-enhancement/adolescent prosocial behavior link and two
mediators were identified: mother operational-interfering style during moral discussions and mother use of non-reasoning and punitive disciplinary strategies.

**Discussion**

The primary purpose of the present research was to examine the effects of parent materialistic values on adolescent moral development and to identify parenting mediators of this association. Parenting mediators in three domains of socialization were explored – the control domain, the protection domain, and the guided learning domain. The initial hypotheses were partially supported, but found only in the sample of mothers and not in the sample of fathers. Two indicators of adolescent moral development – prosocial behavior and approval orientation – were predicted from mother materialism; however, mediators were identified only for prosocial behavior. Both mothers’ use of a controlling and combative interaction style (guided learning domain) and non-reasoning and punitive discipline strategies (control domain) mediated the link between one measure of mother materialism (self-enhancement) and adolescent prosocial behavior. The theoretical and practical implications of the main findings are discussed below.

**Negative Effects of Materialistic Parenting**

Two measures of parent materialism were assessed in this research, extrinsic aspirations and self-enhancement values. Both of these measures were found, in the mother sample, to predict one of the three adolescent moral outcomes assessed in this study. The effects (or lack thereof) of materialism on each of the three adolescent moral factors (prosocial behavior, approval orientation, and empathic reasoning) will each be discussed in turn.

**Prosocial behavior.** Mothers placing great importance on self-enhancement values (power and achievement) had adolescents scoring lower on the prosocial behavior composite
(helpfulness, prosocial value internalization, and low antisocial behavior). This association was fully mediated by mothers’ use of an operational-interfering style when discussing moral dilemmas with their adolescent and by mothers’ use of non-reasoning and punitive strategies when disciplining their adolescent.

**Operational-interfering style.** As initially hypothesized, the interactions of mothers high in self-enhancement with their adolescents contained more operational and interfering statements than mothers scoring low in self-enhancement. These mothers were more critical and provided their opinions in a competitive (rather than informative) manner; they used a negative and hostile tone, at times interfering with sustained discussion through distractions and distortions.

Previous research has demonstrated that materialistic individuals are more competitive and dominating in their interactions with other adults (McHoskey, 1999; Sheldon et al., 2000), and the present research adds to this literature by demonstrating similar effects in parent-child interactions. In the present study, interaction style was only assessed in the context of discussions of a moral nature, although it might be expected that this operational-interfering style would persist across discussion topics (e.g., those unrelated to moral issues). However, the effects of materialism on operational-interfering style may be particularly evident in discussions of a moral nature based on the fact that materialistic individuals tend to rely on rule-based moral reasoning (Lammers & Stapel, 2009). In other words, they view actions as inherently right or wrong and ignore situational contexts or consequences. This could contribute to a domineering style of discussing moral dilemmas with their adolescents, as materialistic parents may focus on presenting their own opinion and forcing the adolescent to take on this same opinion, rather than considering the adolescent’s unique perspective.
This operational-interfering style used by mothers in turn predicted adolescent prosocial behavior (negatively). This finding is not surprising considering the importance of autonomy-supportive parenting techniques to adolescents’ internalized regulation of behavior (e.g., Hoffman, 1983; Deci & Ryan, 2000; Hardy et al., 2008). When materialistic mothers attempt to impose their own views on adolescents, rather than eliciting and scaffolding the development of adolescents’ own reasoning, they impair adolescents’ ability to internalize and identify with the values that mothers are trying to impart. This type of autonomy-thwarting style does not provide adolescents with an opportunity to contemplate and understand why the values and behaviors in question are important to them and to assimilate these with their existing set of values, resulting in less value-congruent behavior as evidenced in the present study: mother operational-interfering style predicted lower prosocial behavior scores.

**Non-reasoning/punitive strategies.** In addition to ineffective parenting in the guided learning domain, it was hypothesized that materialistic parents would also use ineffective control domain techniques, specifically those that are over-controlling and domineering, similar to their use of an operational-interfering interaction style. Three dimensions of control domain parenting were explored – non-reasoning/punitive strategies, directiveness, and democratic participation – however only non-reasoning/punitive strategies were significantly associated with mother self-enhancement. Directiveness refers to scolding, criticizing, and directing children’s behavior, while democratic participation refers to the inclusion of child perspectives in rules, disagreements, and parental requests. Thus, there seems to be something specific about the non-reasoning/punitive dimension of control domain parenting that relates to materialism in mothers (this differed in fathers as outlined further below) – a lack of justifications or explanations in conjunction with punishment.
Materialistic mothers may fail to provide justifications for punishment for similar reasons to those noted above in the guided learning domain; their use of rule-based reasoning means that they see “rules” as explanations or reasoning in and of themselves. Stating the reason for punishment as “because I said so” is seen as sufficient by those subscribing to rule-based reasoning. The problem is that children and adolescents are left without any appeal to the consequences of their actions for others. As early as 4-5 years old, children consistently differentiate between behaviors that are wrong because they are against the rules (conventional) and those that are inherently wrong because they cause harm to others (moral; Turiel, 1983).

Importantly, reasoning as a disciplinary tool needs to be coordinated with the social domain (conventional versus moral) of the act under consideration to effectively promote moral development (Smetana, 1999). Other-oriented reasoning in moral contexts is associated with greater moral internalization and the development of empathic concern for others and empathic/altruistic reasoning (see Smetana, 1999). By failing to appeal to other-oriented reasoning for punishment following moral transgressions, materialistic mothers will not be able to effectively promote moral value internalization and the internalized regulation of prosocial and moral behavior. This was evidenced in the present study by the significant mediation by non-reasoning/punitive strategies of the association between mother self-enhancement and adolescent prosocial behavior. Materialistic mothers who fail to provide appropriate justifications for punishment following moral transgressions have children who show lower levels of prosocial behavior (helpfulness, prosocial value internalization, and low antisocial behavior).

**Approval orientation.** The one adolescent moral factor predicted from mother extrinsic aspirations was approval orientation. This factor primarily reflected adolescents’ focus on interpersonal approval-oriented reasons and the desire to behave in stereotypically “good”
fashion as justifications during moral discussions. This style of reasoning is considered less cognitively advanced or mature than the other-oriented reasoning styles of empathic reasoning and internalized reasoning (Eisenberg et al., 1995). The results indicate that mothers who place high importance on financial success, popularity, and image have adolescents who use more of this immature type of reasoning when justifying moral decisions; in other words, they think about gaining approval from others and appearing to be stereotypically good.

In the present research, a parenting mediator of this association could not be identified. None of the assessments of control domain, protection domain, or guided learning domain parenting significantly mediated the relation between mother extrinsic aspirations and adolescent approval orientation. One explanation may be that in the guided learning domain, only mothers’ *style* of moral discussion rather than *content* of moral discussion was assessed. Perhaps mothers high in extrinsic aspirations use approval oriented reasons themselves to justify moral decisions (regardless of their style of getting this message across) and, in effect, model this type of reasoning to their adolescents. Mothers high in extrinsic aspirations had significantly lower empathy scores than mothers low in extrinsic aspirations, suggesting that they may indeed be less oriented towards empathic types of moral reasoning. Mothers who emphasize extrinsic values likely communicate this value to their children and adolescents in various ways, and the fact that this was unmediated by the parenting variables assessed in the study indicates that this orientation (towards defining moral worth in relation to external approval) may be transmitted quite directly. In other words, mothers provide examples through their communications and behaviors that the extrinsic approval of others is highly desirable and/or important, and children take in this value relatively independently of parenting style or process.
**Empathic reasoning.** Although it was hypothesized that materialistic parents would be less emotionally responsive to their adolescents, leading to lower scores of empathy reasoning in adolescents, none of the parent materialism variables predicted adolescent empathic reasoning (empathy, needs of other reasoning, empathic reasoning, internalized reasoning, and low hedonistic reasoning). Thus, although mother materialism predicts higher levels of approval-oriented reasoning it does not necessarily mean that adolescents display less empathy or use empathic types of reasoning any less than adolescents who have parents scoring lower in materialism.

The inability of parent materialism to predict adolescent empathic reasoning in the present sample may be a consequence of the idiosyncratic nature of empathic reasoning during this particular period of development. In a longitudinal study of prosocial moral reasoning across childhood and adolescence, Eisenberg et al. (1995) demonstrated that the development of some types of reasoning is non-linear, with many changes occurring in early to mid-adolescence. Hedonistic reasoning was found to decline sharply with age until about 11-12, at which point increases were seen across mid-adolescence (until about age 17-18). On the other hand, needs-of-other reasoning increases until age 8, remains stable until age 12, and then declines substantially across adolescence (Eisenberg et al., 1995). These results point to a regression in moral reasoning during early to mid-adolescence and are consistent with the inverse correlation found between age and empathic reasoning in the present sample of 12- to 15-year-olds. Thus, although these adolescents are capable of using higher-level moral reasoning, they seem to regress to lower-levels of reasoning, and this may obscure associations to parenting variables. While parent materialism, and parenting behaviors for that matter, may predict empathic
reasoning in childhood and again in late adolescence, the regression in prosocial reasoning during early adolescence may prevent consistent associations between these variables.

Research by Malti, Eisenberg, Kim and Buchmann (2013) further suggests that aspects of parenting may predict the individual patterns of moral reasoning change in adolescence. In a longitudinal study of children from age 6 through age 9, Malti and colleagues (2013) found that parent encouragement and warmth predicted trajectories of moral reasoning. Three trajectories were found – high-stable, increasing, and low-stable – and children in the high-stable group experienced more parent encouragement and warmth than children in the increasing group. These findings demonstrate that parenting behaviors differentiate moral reasoning trajectories in childhood, and the same may be true in adolescence. Eisenberg et al. (1995) explored general trends in prosocial reasoning development in adolescence, but perhaps distinct trajectory groups exist in this regard. The cross-sectional nature of the present sample does not allow for investigation of trajectories, but future research exploring these adolescent trajectories may be able to link parent materialism and parenting behaviors to adolescent empathic reasoning.

**Parent responsiveness to distress.** In both mothers and fathers, self-enhancement scores were negatively correlated with protection domain scores, and mother extrinsic aspirations were negatively correlated with mother empathy. Thus, materialistic parents do indeed display less emotional responsiveness towards their adolescents as hypothesized. Materialism correlates with reports of less loving and more conflicted relationships (Kasser & Ryan, 2001) and more detached and emotionally distant interactions (McHoskey, 1999). The hypothesis that these qualities would be reflected within the parent-child relationship of materialistic parents was confirmed. Both mothers and fathers who scored high in self-enhancement reported that they were less able to respond to their adolescent’s distress, show support and care, and act as a
source of help and support when the adolescent was troubled, as compared to parents scoring lower in self-enhancement.

Surprisingly, these protection domain scores did not predict any of the adolescent moral factors. It has been widely demonstrated that parent warmth, affection, and responsiveness to distress are important for moral development (e.g., Carlo et al., 2010; Soenens et al., 2007). This may perhaps be explained by the generally high protection domain scores obtained in the present sample. The high mean for both mothers and fathers on the protection domain scale indicates that the majority of parents in this sample indicated that they were providing comfort and emotional support to their adolescents. Thus, even though materialistic parents were proving less of this comfort and support than non-materialistic parents, they clearly provided enough that the empathic reasoning of their adolescents was not impaired.

The high protection scores may be a reflection of the type of parent who participated in this study. Overall, the parents were highly educated and of high socio-economic status. They were also parents who volunteered their time to assist a research study on adolescent development. Socio-economic status and education predict differences in certain parenting goals and behaviors, with low scores on these demographic variables relating to less nurturance and involvement, and greater emphasis on strict discipline (Kasser et al., 1995; Luster, Rhoades, & Haas, 1989). Thus, the demographic characteristics of the present sample may have contributed to the lack of effect of parent protection scores on adolescent moral development, as all parents were sufficiently supportive of their adolescent’s emotional needs.

**Materialistic fathers.** The large majority of existing research on parenting focuses on maternal parenting, while a comparatively smaller literature explores paternal parenting factors
that influence adolescent development. The present research provides some initial data on father materialism, paternal parenting, and adolescent moral development. Contrary to initial hypotheses, father materialism was not predictive of adolescent moral development; neither father materialism variable predicted any of the three adolescent moral factors.

Although father materialism was not found to relate to the measures of adolescent development assessed in this study, it was predictive of father parenting techniques. Paternal parenting in the guided learning domain was not assessed (as fathers only completed the questionnaire portion of the parenting measures), but paternal parenting in both the control and the protection domains was predicted from materialism scores. Father self-enhancement and father extrinsic aspirations were both predictive of directiveness, and father extrinsic aspirations were marginally predictive of both non-reasoning/punitive strategies and democratic participation (inversely). Thus, the way that fathers choose to parent in misbehaviour and discipline contexts is related to their materialistic values; fathers high in materialism use more scolding and criticisms than fathers low in materialism and are marginally less likely to use reasoning when disciplining their adolescents and to take their adolescents’ perspectives into account when making rules or during disagreements. Father materialism also predicted parenting in the protection domain, with a significant negative correlation between father self-enhancement and protection scores and a marginally significant negative correlation between father extrinsic aspirations and protection scores. Therefore, similar to materialistic mothers, materialistic fathers are less likely to provide support and help when their adolescents are troubled and less able to respond to their adolescents’ distress.

In sum, father materialism was quite predictive of father parenting; however, the father parenting variables were not predictive of adolescent moral development. Perhaps if behavioral
measures had been administered to fathers (as they were to mothers) then significant effects of parenting on adolescent moral development would be found. Alternately, the parenting practices of mothers may indeed have a greater effect on adolescent moral development than the parenting practices of fathers. Most children and adolescents spend more time in the company of their mother than their father and mothers are also typically responsible for the majority of child-rearing needs (Pleck, 1997). Further, materialistic values may have different consequences in mothers and in fathers, with a materialistic orientation in fathers perhaps more likely to result in occupational and financial commitments that necessitate spending less time with children and, thus, exerting less influence over adolescents’ moral development. If materialism in fathers, but not in mothers, results in less involvement with adolescents this might explain the lack of effect of father materialism on the adolescent moral factors. Further research is required in order to explore the potentially different consequences of materialism in males and females.

**Self-Enhancement versus Extrinsic Aspirations**

The initial rationale for including two measures of materialism was to create a composite score that would reflect a more comprehensive assessment of materialism than simply using one or the other. However, the differential associations between each of these measures and the remaining study variables necessitated that these be analyzed independently. Although self-enhancement and extrinsic aspirations were correlated with one another, these measures were differentially predictive of parenting behaviors and adolescent moral development, suggesting that perhaps two independent dimensions of materialism were assessed.

One explanation for the inconsistency between these two measures could be that self-enhancement values and extrinsic aspirations are situated at different levels within the
personality/self-concept structure. Some researchers view Schwartz’s ten basic values as underlying motives that reflect foundational value orientations which are antecedents to goals and attitudes, including materialism (Kilbourne et al., 2005; Karabati & Cemalcilar, 2010). In this view, self-enhancement values represent fundamental motives that impact many aspects of a person’s life and self-structure, only one of which is the importance they ascribe to materialistic pursuits. This would be consistent with the present results, as self-enhancement values correlated with extrinsic aspirations but also predicted many other study variables that extrinsic aspirations did not, suggesting that self-enhancement values perhaps are the antecedent to both extrinsic aspirations and to parent behaviors. Research backing this perspective typically measures materialism according to the economic and consumer research characterization of attitudes towards possessions (e.g., Kilbourne et al., 2005; Karabati & Cemalcilar, 2010). Extrinsic aspirations for financial success, popularity and image were assessed in the present research in an attempt to get at materialism on a deeper level (i.e. values versus attitudes) but it seems that this scale may be more analogous to the traditional attitude measures of materialism.

An alternate explanation for the differential abilities of self-enhancement and extrinsic aspirations to predict adolescent moral development may be that these scales are differentially related to authoritarian parenting. The extrinsic aspirations scale purely assesses extrinsically oriented values, while the self-enhancement scale assesses both extrinsically oriented values and power/dominance values, suggesting that the latter scale may be less independent of authoritarian parenting than the former. This would help to explain the closer association of self-enhancement to the remaining study variables, as compared to extrinsic aspirations; however, it also suggests that the different dimensions of materialism require further investigation and differentiation, likely necessitating cleaner instruments than those presently available.
A final explanation for the inconsistency between the two measures of materialism in the present study is simply the nature of how each of these scores was calculated. Self-enhancement values (power and achievement) were calculated relative to individual’s scores on the remaining eight basic values, in effect, situating self-enhancement values within the entire value system. Extrinsic aspiration scores, on the other hand, were obtained entirely through participants’ self-reports of the importance they ascribe to various goals (related to financial success, popularity, and image). Perhaps if these extrinsic aspirations had been scored relative to the individuals’ other aspirations (e.g., for affiliation, self-acceptance, physical health; Kasser & Ryan, 1996) results would have been obtained that more closely matched those found for self-enhancement values.

Based on the present results, however, it seems pertinent that future research continues to explore the various dimensions of materialism and their differential relations to parenting and adolescent development. It may be the case that one aspect of parent materialism (e.g., valuing financial success) leads to adolescents’ own orientation towards money and possessions and, while not deleterious to adolescent moral development, does little to promote moral orientations in their children. The aspect of parent materialism that includes the desire for power and sense of entitlement, however, may be quite detrimental to the developing adolescent morality as it is reflected through parenting practices. These differential effects of two dimensions of parent materialism on adolescent development are consistent with the present results and suggest that, in the future, closer attention to the component characteristics of materialism are required in research design as well as instrument development.

**Domains of Socialization**
The domains-of-socialization framework for conceptualizing and measuring parenting behaviors has been theoretically depicted (e.g., Grusec & Davidov, 2010), but only recently have empirical investigations of this framework been undertaken. Vinik, Johnston, Grusec and Farrell (2013), in a recent study of value socialization experiences as recalled through the narratives of young adults, found that the domains correlated in expected directions with the emotionality and internalization of the value lesson. Further, evidence for the specificity of domains in terms of their utility for different child outcomes is extensive (see Grusec & Davidov, 2010 for a review). Thus, early indications suggest this approach has merit, and the present research adds to this literature.

The three domains of control, protection, and guided learning were the focus of the present investigation based on their hypothesized links to adolescent moral development. Moderate correlations were found between the protection and control domains, with both mothers and fathers who reported less responsiveness to their adolescents’ distress more likely to report use of non-reasoning and punitive strategies and less likely to encourage adolescents’ democratic participation in rules and decisions. The indicators of guided learning assessed in this sample of mothers were found to be independent of both the protection and control domains. Therefore, this research provides evidence in support of the idea that parenting is multidimensional and that parental effectiveness in one domain is not necessarily related to effectiveness in other parenting domains.

Maternal parenting in the control domain was related to both adolescent empathic reasoning and adolescent prosocial behavior, while maternal parenting in the guided learning domain was related to all three adolescent moral factors. Maternal empathy, one dimension of the protection domain, approached significance in predicting adolescent empathic reasoning.
These results provide additional evidence for domain specificity of parenting in relation to different adolescent outcomes. Protection parenting relates to the development of empathic reasoning but not prosocial behavior or approval orientation, while control parenting relates to the development of prosocial behavior and empathic reasoning but not approval orientation. The overlap that was found among the domains in predicting outcomes (e.g., guided learning parenting predicting all moral factors) is likely a result of the fact that the adolescent moral factors used as indicators of moral development were themselves a composite of various moral outcomes. In sum, the results suggest that the domains of socialization framework presents a useful means of describing and classifying parenting behaviors.

**Implications for Adolescent Moral Development**

The associations found between parenting behaviors and adolescent moral development are largely consistent with the existing literature. Mothers reporting high usage of power assertive disciplinary strategies had adolescents scoring low on empathic reasoning and prosocial behavior, and mothers who displayed empathy were marginally more likely to have adolescents with high empathic reasoning than mothers lower in empathy. While parent discipline strategies and responsiveness to distress have been quite thoroughly investigated as predictors of moral development (e.g., Hoffman, 1977, 1983; Kochanska et al., 2003; Laible et al., 2008; Carlo et al., 2010), parent-child discussions in the absence of misbehaviour and discipline are gaining recognition as an important context for moral socialization (Walker et al., 2000; Vinik et al., 2013).

Thompson (1990) has suggested that calm discussions outside the discipline situation are better contexts for value socialization than events within the discipline situation. The negative
emotions inherent to discipline contexts mean that children and adolescents’ cognitive processes are occupied with the regulation of emotion and parents are similarly focused on managing children’s emotions. During moral discussions, information is scaffolded or tailored to the adolescents’ level of comprehension, allowing for understanding and awareness of the parents’ conception of issues. In the present research, all three adolescent moral factors were significantly predicted from mothers’ interaction style during parent-child discussions of hypothetical moral dilemmas. On the whole, the guided learning domain was better predictive of adolescent moral development than the control or protection domain.

While previous research has demonstrated the importance of a representational and supportive interaction style to fostering moral development (Walker & Hennig, 1999; Walker et al., 2000), the present data add to this literature by demonstrating the deleterious effect of an operational and interfering interaction style on adolescent moral development. Mothers who scored higher on operational-interfering style had adolescents scoring lower on empathic reasoning and prosocial behavior than mothers scoring low on operational-interfering style. This style of interaction does not scaffold and support adolescent reasoning and discussion and in fact may bring negative emotionality to the interaction, making this context ineffective for promoting moral development.

**Parent materialism.** The results of the present research also point to the importance of parent values in determining parenting behaviors and consequential adolescent developmental outcomes. When parents hold materialistic values, and particularly when they ascribe more importance to the self-enhancement values of power and achievement over other basic values, they are more likely to use parenting behaviors that hinder adolescent moral development than parents who do not ascribe to these values. One implication of this finding is that attempts to
change parenting behaviors may be more effective if parent values and motives are taken into consideration. Although values are quite stable aspects of the personality and self-concept, perhaps efforts to alter the relative importance of certain values may produce changes in parenting behaviors. Alternatively, when parents hold values such as those for self-enhancement, perhaps framing more effective parenting behaviors as consistent with their underlying value orientations may result in changes in parenting that will in turn be reflected in adolescent moral development.

**Limitations and Future Directions**

One limitation of the present study is the biased sample. The families that participated in this research were well-educated, high SES, and largely intact. As a result, the findings of this research present a portrait of the influence of materialism on parenting and adolescent moral development within high SES families and cannot be assumed to generalize beyond this population. Indeed, materialism tends to be more prevalent in low SES samples (e.g., Flouri, 2004) and certain parenting goals and strategies also differ based on SES (although not emotional attachment; Luster et al., 1989; Luthar & Latendresse, 2005), so there is good reason to believe that SES could have many complex interactions with materialism, parenting, and adolescent moral development. As an initial investigation into these associations, the present study effectively held SES constant by examining families at one end of the SES spectrum. Further research is required to delve into the ways that SES might alter the associations found in the present data. A future study could replicate the methodology used in this study with a low SES sample in order to compare the associations among study variables between these two groups.
An additional limitation of the present study was that fathers did not provide any behavioral data. In order to rectify the lack of literature regarding paternal moral socialization, an attempt was made to include fathers in this study by asking adolescents’ fathers to complete an online questionnaire from home. While this enabled the identification of links between father materialism and father parenting in the domains of socialization, no associations to adolescent moral development were found. Perhaps if fathers had completed measures of empathy or discussion style (as mothers did), links to adolescent moral development could have been identified. Clearly further research is required on the contribution of fathers to all aspects of adolescent moral development.

Additional areas for future research include further validation and investigation of the domains of socialization, in relation to moral development and other areas of children’s and adolescents’ social, emotional, and cognitive development. This research focused on three domains hypothesized to relate to moral development, but future research should determine the socialization outcomes of the mutual reciprocity and group participation domains as well. In addition to the direct power and control assessed in the present study, future research extending this investigation to psychological control (e.g., Barber, 1996) may prove informative. Materialistic parents, and particularly those in high SES samples where pure authoritarian parenting is less normative and socially accepted, may rely on more subtle techniques such as shaming and withdrawal of affection than what was assessed in this sample.

Exploration of the effects found in the present sample for same-sex (and opposite-sex) parent-child dyads may shed further light on the associations among materialism, parenting, and adolescent morality. Although previous research tends to find that adolescent values, for both girls and boys, are more closely associated with mothers’ as compared to fathers’ values (e.g.,
Sigelman, Sigelman, & Goodlette, 1984), there may be more complex, gender-specific associations among parent materialism and adolescent outcomes than what was reported here. For example, Barni, Ranieri, Scabini, and Rosnati (2011) found that female adolescents accepted their mothers’ socialization values (assessed with Schwartz’s values) more than male adolescents, although there were no socialization differences based on paternal values. Thus, investigations into the effects of gender compositions within parent-child dyads may prove useful.

Finally, the links between self-enhancement values and extrinsic aspirations require further explication: are extrinsically oriented aspirations as deep-rooted and fundamental as the basic self-enhancement values of power and achievement, or are extrinsic aspirations merely one consequence of possessing these values?

Conclusions

Despite these limitations, the present study demonstrates that maternal materialism is negatively associated with adolescent moral development. Mothers who aspire to financial success, image, and popularity have adolescents who use more approval-oriented reasoning when discussing moral dilemmas than mothers low in these extrinsic aspirations. Mothers who place high value on power and achievement have adolescents who score low on prosocial behavior, and this association is mediated by mothers’ use of an operational-interfering interaction style during moral discussions and by their use of non-reasoning and punitive discipline strategies. Beyond these links to adolescent moral development, both mother and father materialism were linked to negative parenting behaviors, including low responsiveness to adolescent distress, low empathy (in mothers), and high use of scolding and criticisms (in
fathers). Thus, when parents place high value on demonstrating power over others and achievement according to social standards at the expense of more prosocial values, adolescent moral development suffers, as mediated by the effect of materialism on parenting behaviors.
References


Appendix A: List of Portrait Values Questionnaire (PVQ) Items

BENEVOLENCE

It's very important to him to help the people around him. He wants to care for other people.

It is important to him to be loyal to his friends. He wants to devote himself to people close to him.

UNIVERSALISM

He thinks it is important that every person in the world be treated equally. He wants justice for everybody, even for people he doesn’t know.

It is important to him to listen to people who are different from him. Even when he disagrees with them, he still wants to understand them.

He strongly believes that people should care for nature. Looking after the environment is important to him.

SELF-DIRECTION

Thinking up new ideas and being creative is important to him. He likes to do things in his own original way.

It is important to him to make his own decisions about what he does. He likes to be free to plan and to choose his activities for himself.

STIMULATION

He likes surprises and is always looking for new things to do. He thinks it is important to do lots of different things in life.

He looks for adventures and likes to take risks. He wants to have an exciting life.

HEDONISM

Having a good time is important to him. He likes to “spoil” himself.

He seeks every chance he can to have fun. It is important to him to do things that give him pleasure.

ACHIEVEMENT

It is very important to him to show his abilities. He wants people to admire what he does.

Being very successful is important to him. He likes to impress other people.
POWER

It is important to him to be rich. He wants to have a lot of money and expensive things.

It is important to him to be in charge and tell others what to do. He wants people to do what he says.

SECURITY

It is important to him to live in secure surroundings. He avoids anything that might endanger his safety.

It is very important to him that his country be safe from threats from within and without. He is concerned that social order be protected.

CONFORMITY

He believes that people should do what they're told. He thinks people should follow rules at all times, even when no-one is watching.

It is important to him always to behave properly. He wants to avoid doing anything people would say is wrong.

TRADITION

He thinks it's important not to ask for more than what you have. He believes that people should be satisfied with what they have.

Religious belief is important to him. He tries hard to do what his religion requires.
Appendix B: Moral Dilemmas and Discussion Questions

Dilemma 1

Imagine that you put your bike up for sale. You want to sell it for $100. A young man comes by to see the bike and is interested in buying it. He bargains with you and you agree on selling it for $75. Then he says: ‘Sorry, I don’t have the money on me; I’ll quickly run home to get it. I’ll be back in half an hour.’ You say: ‘Agreed, I’ll wait for you.’ Shortly after he is gone, another customer shows up who is willing to pay the full price. What is the right thing to do in this situation?

Discussion questions:

1. Why would this be the right thing to do?
2. Is there anything wrong with selling your bike to the second customer?
3. How would you feel about selling it to the second customer for full price?
4. How would you feel about keeping your word and selling it to the first young man?
5. If you were the first customer who left to get money, would you want someone else to sell the bike before you returned?

Dilemma 2

Imagine that one day there is a new boy (girl) in class who does not have any friends there yet. You want to make friends with him (her) but your best friend doesn’t want to. The new boy (girl) invites you to a concert by your favorite band that has been sold out for months. However, you already have plans with your best friend, who wants to talk to you about an important problem. What would you do?

Discussion questions:

1. What would be the right thing to do? Why?
2. How do you think you would feel after making that choice?
3. Do you have a duty to be loyal to your best friend?
4. Would you regret it if you didn’t go to the concert?
5. If you were the new kid at school, do you think you would want someone else to make an effort to be friends?
Appendix C: Prosocial Self-Regulation Questionnaire (PRQ-P)

These questions are about the reasons you do things. Different kids have different reasons. We want to know how true each of these reasons is for you.

1 = not at all true  2 = not very true  3 = sort of true  4 = very true

Why do you keep a promise to friends?

1. So my friends will like me. (introjected)
2. Because I’d feel like a bad person if I didn’t. (introjected)
3. Because my friends will get mad at me if I don’t. (external)
4. Because I think it’s important to keep promises. (identified)
5. Because I don’t like breaking promises. (identified)

Why do you not make fun of another child for making a mistake?

1. Because if I do, I’ll get in trouble. (external)
2. Because I think it’s important to be nice to others. (identified)
3. Because I’d feel ashamed of myself after I did it. (introjected)
4. Because other kids won’t like me if I do that. (introjected)
5. Because I don’t like to be mean. (identified)

Why don’t you hit someone when you’re mad at them?

1. Because I’ll get in trouble if I do. (external)
2. Because I want other kids to like me. (introjected)
3. Because I don’t like to hit others. (identified)
4. Because I wouldn’t want to hurt someone. (identified)
5. Because I’d feel bad about myself if I did. (introjected)

Why do you try to be nice to other kids?

1. Because if I don’t, other kids won’t like me. (introjected)
2. Because I’ll get in trouble if I don’t. (external)
3. Because I think it’s important to be a nice person. (identified)
4. Because I will feel bad about myself if I don’t. (introjected)
5. Because I don’t like being mean. (identified)

Why would you help someone who is in distress?

1. Because I think it’s important to give help when it’s needed. (identified)
2. Because I could get in trouble if I didn’t. (external)
3. Because I’d feel bad about myself if I didn’t. (introjected)
4. Because I want people to like me. (introjected)
5. Because it is satisfying to help others. (identified)
Appendix D: Self-Report Antisocial Behavior Items

*During the past 1 month, how often have you:*

1. Cut classes or stayed away from school without permission
2. Broke in or tried to break into a building just for fun or to look around
3. Smoked cigarettes
4. Sneaked into a movie, sports game or something like that without paying
5. Stolen money (less than $10)
6. Stolen money (more than $10)
7. Taken something from a store without paying for it
8. Got into a physical fight or hit someone close to your age
9. Got into a physical fight or hit an adult or a teacher
10. Purposely broke or damaged objects that did not belong to you
11. Cheated at school or other places
12. Told lies to people in order to cheat or con them
13. Bullied or teased someone
14. Talked back to or cursed at a teacher
15. Scribbled on the school building, outside or inside, or on things belonging to your school
16. Been noisy and rowdy somewhere you aren’t supposed to
17. Littered waste or garbage
18. Been mean to an animal
Appendix E: Consent Forms

Information Sheet/Consent Form: Mother

Thank you for agreeing to participate in our research! The questionnaires and activities you are about to complete are about the way parents and adolescents interact in different situations that arise in daily family life and also about your own personal thoughts and beliefs. It should take you about an hour to complete the whole study from start to finish.

Your participation, as well as that of your child and his/her father is completely voluntary, and you may stop the study at any time if you wish to. You may also refrain from answering any of the questions if you don’t want to answer them. Also, there are no right or wrong answers to any of the questions you will be asked in this study.

All the information given by you, your child, and his/her father will be kept strictly confidential. The information you provide will not be discussed with your child or his/her father. Your name will not appear on any of the data files so that you remain anonymous and only persons authorized by the researcher will have access to the data. Ultimately, we intend to publish the results of this study in an academic journal and in reporting these results, participants will not be identified in any way.

If you have any questions while you are completing the study, or after you have completed the study, you can contact the researcher, Megan Johnston, at the Child Study Center, 416-978-5373 or megan.johnston@utoronto.ca. You can also contact Professor Joan Grusec, the research supervisor, at 416-978-7610. For information regarding your rights as a research participant, please contact the University of Toronto Office of Research Ethics, at 416-946-3273 or ethics.review@utoronto.ca.

Please sign below to indicate that you have read the above information and that you consent to participate in this study. This will also indicate your consent for your child to participate in this study. If you would like a copy of this consent form for your records, please don’t hesitate to ask for one.

I, ___________________________, consent to participate in the research study described above, and also consent to my child’s participation in this study.

______________________________  ____________________________
Signature                  Date
Thank you for agreeing to participate in our research! The questionnaires and activities you are about to complete are about the way parents and adolescents think about different situations that arise in daily family life and also your personal thoughts and beliefs. It should take you about an hour to complete the study from start to finish. As you may know, your mother and your father are also participating in this study.

Your participation is completely voluntary, and you may stop the study at any time if you wish to. You may also refrain from answering any of the questions if you don’t want to answer them. Also, **there are no right or wrong answers** to any of the questions you will be asked in this study.

All the information given by you, your mother, and your father will be kept strictly confidential. **The information you provide will not be discussed with your mother or your father.** Your name will not appear on any of the data files so that you remain anonymous and only persons authorized by the researcher will have access to the data. Ultimately, we intend to publish the results of this study in an academic journal and in reporting these results, participants will not be identified in any way.

If you have any questions while you are completing the study, or after you have completed the study, you can contact the researcher, Megan Johnston, at the Child Study Center, 416-978-5373 or megan.johnston@utoronto.ca. You can also contact Professor Joan Grusec, the research supervisor, at 416-978-7610. For information regarding your rights as a research participant, please contact the University of Toronto Office of Research Ethics, at 416-946-3273 or ethics.review@utoronto.ca.

Please sign below to indicate that you have read the above information and that you provide your assent to participate in this study. If you would like a copy of this consent form for your records, please don’t hesitate to ask for one.

I, ________________________, consent to participate in the research study described above.

_____________________________  _______________________
Signature                      Date