

If children won lotteries: materialism, gratitude and imaginary windfall spending

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Abstract:

Purpose: Despite USA's emphasis on children as consumers with great spending power, little is known about their actual spending preferences and how they might be linked to personal character traits such as materialism and gratitude. This study aims to address this literature gap by examining children's spending preferences in an imaginary windfall scenario, as well as main and interactive effects of materialism and gratitude on such preferences.

Design/methodology/approach: This was a school-based research study. Survey methodology was used in which self-report measures were collected from 247 7-14-year-old children (58 per cent male). **Findings:** Results suggest that materialism was significantly associated with saving resources and allocating less money to charity. Gratitude was related to more charitable giving. One interactive effect was found whereby the link between more materialism and saving was attenuated by high levels of gratitude. Contrary to expectations, no age or gender differences in spending preferences or materialism were found, but older children and girls reported higher gratitude than did younger children and boys. **Research limitations/implications:** Although cross-sectional data limit conclusions regarding directionality, the results have implications for understanding children's consumer behavior, as well as children's well-being, self-regulation and ability to delay gratification. **Practical implications:** The results suggest that materialism, with its emphasis on consumption, and gratitude, with its positive feedback loop that encourages prosocial connections, are particularly relevant avenues to continue examining in future research on youth consumer patterns. **Social implications:** Gratitude not only promotes social connectedness but also is more environmentally sustainable in promoting appreciation for what one has rather than wanting more. Uncovering ways that these characteristics are linked to hypothetical and, ultimately, actual spending behavior reflects a meaningful contribution to the field. **Originality/value:** This paper fills gaps in the literature by examining links between specific character traits and potential spending behaviors, with deeper implications for children's psychosocial development, self-regulation and environmental sustainability.

Keywords: Childhood studies | Quantitative methods | Developmental psychology | Purchase requests

Article:

Understanding the consumer characteristics of children is timely and developmentally salient. Indeed, marketing strategies have been increasingly geared toward younger and younger audiences as companies realize the tremendous buying power of children (McGinnis *et al.*, 2006). The average child in the USA is estimated to view over 40,000 advertisements each year, and this number is only increasing because of more diverse forms of media to which children are exposed (e.g. television, video games, tablets and social media) (Kunkel, 2001). With near constant exposure to such advertisements, product placement and celebrity endorsements, children from the USA and other modern societies are raised in an environment that tends to emphasize on material acquisitions (Calvert, 2008). Yet, what little knowledge and research exists in terms of spending preferences or consumer behaviors has largely focused on older adolescents and adults (Kasser, 2005).

Using an imaginary windfall scenario, the goal of the present study was to address limitations in the literature by examining possible demographic (e.g. age and gender) variation in children's spending preferences. Moreover, we investigated whether materialism attitudes – broadly defined as the importance that individuals attach to material goods and worldly possessions (Belk, 1984) – and gratitude – the degree to which individuals express gratefulness toward people who have helped them by returning the favor and taking into account others' goals and wishes (Gulliford *et al.*, 2013; Roberts, 2016) – are independently and interactively associated with these preferences. Gaining more knowledge on children's spending attitudes, their valuing of material goods and their gratitude and orientation toward others has key implications for sustainability and consumerism, as well as for providing new insight into relevant developmental processes such as self-regulation and prosocial behaviors.

Demographic considerations and children's spending preferences

From a developmental perspective, children's spending preferences presumably change with age. Piagetian theory suggests that children in the concrete operational stage, roughly 7-12 years of age, focus on the "here and now" (Inhelder and Piaget, 1958). Children in middle childhood might, therefore, be likely to spend their resources on concrete, tangible objects for their own or for others' use or immediate consumption. As children move from late childhood to early adolescence, they become more capable of abstract thinking, both in general and with regards to society as a whole (Piaget, 1972). With more advanced cognitions, older children and adolescents are presumably able to think more prosocially, outside of the self (Eisenberg *et al.*, 2005). For example, in a study examining age and gender effects on prosocial tendencies, middle adolescents were more likely to report both anonymous and altruistic prosocial tendencies than were early adolescents (Carlo *et al.*, 2003). Hence, age might be positively linked with children's prosocial spending preferences and allocation of resources toward community betterment (e.g. through gift giving or donations to charity) (Kasser, 2005).

Given that children's self-regulation skills also improve over time, including the ability to delay gratification (Tobin and Graziano, 2010), age could also be related to preferences for saving. Indeed, Belk (1985) reviewed a number of studies with samples spanning childhood through

adulthood and found that interest in material possessions declines with age while socially focusing on empathy, equity and sharing increases, which could all be related to children's preferences to spend resources on others versus themselves. Similarly, interviews with three generations of family members inquiring about their most valued possessions revealed that younger family members tended to emphasize on material objects, whereas older members focused more on abstract experiences and memories (Csikszentmihalyi and Rochberg-Halton, 1981).

In light of these theoretical perspectives and existing, but limited, empirical work, we predicted that age would be positively correlated with children preferring to save money and inversely related to their desire to buy. With the tendency for children to become less egocentric and more prosocial over time (Carlo *et al.*, 2003; Eisenberg *et al.*, 2006; Kasser, 2005), we also expected that age would be related to children thinking outside of the self and reporting greater preferences for spending their windfall on others, either as gifts or as charitable donations. That said, it should be noted that some work has found little support for age-related differences in materialism (Achenreiner, 1997; Goldberg *et al.*, 2003). Still, others have found curvilinear associations whereby materialism rises from 8-12 years, but subsequently decreases by the age of 16 (Chaplin and John, 2007). Clearly, more research that addresses these inconsistencies could advance knowledge on how spending might vary by age.

Gender is another demographic variable that could affect spending, particularly given the different ways in which girls and boys are socialized. In the USA, girls are typically socialized to be relationally oriented, whereas gender roles for boys revolve around occupational success and financial responsibilities (Kasser, 2005). Consistent with the classic literature on gender roles and expectations (Gilligan, 1982), a meta-analysis conducted by Jaffe and Hyde (2000) found girls and women to score higher on measures of prosocial orientation compared to boys and men. In another meta-analysis, girls demonstrated more prosocial behavior than did boys, with the greatest gender differences observed between childhood and early adolescence (Fabes *et al.*, 1999). In support of these views, prior research suggests that US boys are more materialistic than are girls, whereas girls are more generous than are boys (Flouri, 2004; Goldberg *et al.*, 2003; Kasser and Ryan, 1993). We, therefore, expected that, at all ages, girls would express greater preferences to externally allocate their resources (e.g. gifts to others and charity) than would boys. In contrast, boys might tend toward buying or saving their resources, presumably for themselves, rather than explicitly spending on others.

Materialism and spending preferences

Economic attitudes, including attitudes toward materialism, are palpable predictors of spending. Although precise operationalizations have varied, materialism can be broadly defined as the importance attached to material goods and worldly possessions (Belk, 1984). Relatedly, one key issue in the study of materialism is whether the construct is inherently negative, egoistic and in opposition to prosocial behaviors (Belk, 1985). Prior work has indeed found inverse links between materialism and generosity or sharing (Belk, 2007). Certainly, terminal or hedonistic materialism, in which value is placed on the sheer pleasure of material objects, seems embedded in social status, envy and avarice (Belk, 1984; Csikszentmihalyi and Rochberg-Halton, 1978). Among adults and children, materialism has been linked with a range of negative outcomes such

as poor well-being (e.g. lower happiness, greater distress), low quality relationships (Froh *et al.*, 2011; Kasser and Ryan, 2001; Schor, 2004) and more externalizing behaviors, such as drug and alcohol use (Williams *et al.*, 2000). Notably, however, instrumental materialism – which refers to the value or use of material objects in making life longer and safer (e.g. wanting a car so that loved ones can efficiently get to work and wanting money so that one can donate it to those in need) – can be distinguished from hedonistic materialism and might not have as negative of a connotation or effect (Csikszentmihalyi and Rochberg-Halton, 1978). Viewed as such, some aspects of materialism might be linked to prosocial spending preferences, such as giving to others or to charity.

That said, the present study centers on a hedonistic assessment of materialism, which emphasizes on wants beyond the satisfaction of basic needs and individuals' desires to possess more and better material goods than others (Kasser, 2002). With this conceptualization, we expected that children's materialism (e.g. wanting to own cool things and attaching importance to money) would be linked to consumer preferences that reflect immediate purchasing or saving resources presumably for later purchasing and inversely related to spending money on others or on charity. These expectations are consistent with the limited work that has linked materialism with buying, ostensibly for oneself and less giving to others in need (Belk, 2007; Kasser, 2005).

Gratitude and spending preferences

Little work has examined materialism and gratitude simultaneously, which is surprising given their conceptual overlap. When someone receives a freely given benefit, gift or favor, positive feelings or gratitude can emerge about not only what was gained but also about the benefactor, with a concomitant desire to repay the favor, should an appropriate opportunity arise (Fagley, 2016; Freitas *et al.*, 2011; Tudge *et al.*, 2015a, 2015b). What is more, such resulting feelings of gratitude can be expressed in several different ways. For example, in some of the earliest work on this topic, Baumgarten-Tramer (1938) delineated ways in which gratitude was expressed by beneficiaries who have been given their "greatest wish": verbal ("thank you"); concrete (repayment with things important to themselves rather than to the benefactor); and connective (repayment taking the benefactor's wishes or needs into account). The conceptualizations of *concrete* and *connective gratitude* are the foci of the current study, and both forms of gratitude can be seen to create a cycle of positive feedback as beneficiaries recognize moral debts and become benefactors themselves. Defined in such a way, gratitude thus appears inherently prosocial and encouraging of social connectedness.

Although this type of definition is quite widely used by scholars writing about gratitude, the measures that have been used to assess gratitude to date are more likely to link with a general appreciation for life (e.g. "I have so much in life to be thankful for" and "Oftentimes I have been overwhelmed by the beauty of nature"; items taken from the Gratitude Questionnaire-6: McCullough *et al.*, 2002, and the gratitude, resentment, appreciation test [GRAT]: Watkins *et al.*, 2003) rather than to specific benefactors (Fagley, 2016). Moreover, even when items do refer to benefactors (e.g. from the GRAT, "I couldn't have gotten where I am today without the help of many people"), nothing prosocial is required, and no encouragement of social connectedness or positive feelings toward others is typically assessed. Gratitude, as defined in the present study, is

therefore viewed as a socially moral virtue rather than a dispositional source of happiness (Roberts, 2016; Tudge *et al.*, 2015a, 2015b).

In terms of spending, compared to materialism, gratitude could predict opposite spending preferences and enhance generosity or prosocial spending, because the recognition that someone shared or helped us should result in a sense of moral obligation to continue the cycle of sharing ourselves, either with the same or with a different person (Belk, 2007). For instance, concrete gratitude could form or strengthen relationships through a beneficiary's desire to repay a gift or act of kindness (e.g. by conveying feelings of appreciation, reverence, friendship or something of value). Connective gratitude goes a step further in that the beneficiary is aware of others' own wishes and desires and provides something of value to others in response (Freitas *et al.*, 2011).

Gratitude could therefore promote a more sustainable way of life in that there is less emphasis on material goods themselves (e.g. as would be expected with hedonistic materialism). Rather, the focus is on the positive feelings and social ties that are intrinsically linked to the objects or outcomes that are gained, instead of on the actual objects or outcomes themselves.

Drawing on these conceptual and empirical perspectives, we examined children's gratitude, defined by attitudes toward reciprocating kindness from a benefactor, to determine whether the apparent desire to establish personal connections upon receiving benefits is related to prosocial spending preferences. One of the important characteristics of our approach is the investigation of gratitude and materialism in the same study. Within the perspective of values theory (Bilsky and Schwartz, 1994; Schwartz, 2012), some values are naturally incompatible. For instance, one source of values conflict is between self-enhancement (where Schwartz places hedonism) and self-transcendence (where benevolence is placed). As scholars have argued, the values of hedonistic materialism and gratitude are inversely related, if not diametrically opposed, and could be differentially related to spending preferences (Freitas *et al.*, 2016; Froh *et al.*, 2011; Kasser, 2016; Tudge *et al.*, 2015a, 2015b).

Taken together, we expected that children's attitudes toward gratitude and materialism, assessed through two independent measures, would be inversely related. We also expected that contrary to materialism, gratitude would be inversely related to children's self-reported preferences for buying things for oneself and saving resources in an imaginary windfall scenario and positively linked with gift giving to others and providing charity. When children feel gratitude toward their benefactors, in a sense forming a connection with them, they should be more inclined to spend money on others than on themselves (Aknin *et al.*, 2013). We also explored the possibility that gratitude would moderate some of the links found between materialism and spending preferences. Some work suggests that materialism is related to poorer quality relationships and social isolation, but that gratitude is associated with decreases in these negative outcomes and could therefore counteract materialism's detrimental effects (Froh *et al.*, 2011). Gratitude also has been found to moderate negative links between materialism and life satisfaction (Roberts *et al.*, 2015). To the extent that materialism is related to other psychosocial limitations, such as a less prosocial orientation toward others (e.g. less spending on gifts and on charity), we expected that gratitude could have a similar buffering effect.

The current study

The present study's aim was to add to a broad understanding of children's patterns of spending preferences and of the dual and potentially competing roles of materialism and gratitude in influencing such preferences. We first examined bivariate associations and means among key variables, as well as demographic differences in spending preferences, materialism values and gratitude. We expected that older children and girls compared to boys would be less materialistic, express more gratitude and prefer spending in more prosocial (e.g. gifts and charity) and less self-centered ways (e.g. buy and save). Regression analyses were used to test for main and interactive effects of materialism and gratitude on spending preferences. We expected that materialism would be linked with preferences to buy or save and less to giving gifts to others or to charity. In contrast, more gratefulness was expected to be inversely associated with buying or saving and positively associated with spending on others. By incorporating materialism and gratitude in the same models, we investigated their relative influence, as well as their interaction. The value and novelty of our approach rest in its implications for children's well-being, attitudes toward consumerism and more general environmental sustainability.

Table I. Demographic breakdown of the sample

Sample characteristics	Total sample (%) (N = 247)
<i>Child's sex</i>	
Girls	42
Boys	58
<i>Child's ethnicity</i>	
Hispanic	35
Black	32
White	23
Multiracial or "Other"	10
<i>Child's school</i>	
Public	78
Private	22
<i>Child's grade</i>	
Grade 2	25
Grade 3	15
Grade 4	24
Grade 5	15
Grade 6	8
Grade 7	13
<i>Parents' education</i>	
Less than high school	18
Some high school or completed	31
Some college or vocational education	27
College degree	16
Graduate or professional degree	8

Methods

Participants

Participants were 247 (58 per cent male) children between the ages of 7 and 14 years ($M = 9.85$; $SD = 2.10$). Children were recruited from five elementary and middle schools in a small-medium sized city in the Southeastern USA and distributed across grades two-eight. Schools were selected in an attempt to capture the city's socioeconomic and ethnic/racial diversity by using information provided by the school district about percentages of free lunches and ethnic variation in each school. To represent the full range of area diversity, children from a local private school were also recruited. Table I lists detailed sample characteristics including parent education levels and child ethnicity. Preliminary analyses tested for ethnic variation in study variables, and no significant differences were found [$F_s(3, 151) = 0.11-1.99, ns$]. We also tested for socioeconomic variation, and no significant differences were found [$F_s(6, 59) = 0.04-0.83, ns$]. We therefore collapsed the sample by these variables for all analyses.

Procedures

Data collection procedures were uniform across schools. Parental consent forms were dropped off at each participating school one-two weeks prior to data collection. Teachers were offered \$2.00 for every parent permission letter returned, regardless of whether the parents indicated consent for their child to participate or declined participation on the form. During school time, trained research assistants administered a short set of questions to children whose parents had consented to their participation, but only after the children themselves also provided their own assent. Children were fully informed, in both written and verbal form, of their right to not participate in any or all parts of the study before providing their assent. Participants either remained in their classroom with their entire class or were moved to another room in the school with a small group of participants from their class. Research assistants explained to the participants that the project's interest is in understanding the kinds of things that children like and what they do when they get things that they like. Researchers then read each questionnaire's instructions aloud to the group and provided assistance to those who needed additional help. Younger participants between the ages of seven and ten worked in smaller groups of three or four with researchers reading each question to those who needed it, waiting to move to the next questionnaire until everyone in the group had finished the previous one and explaining words or concepts if needed. Although the data collection procedures were group-based, each child provided his or her own individual responses and did not communicate with one another during the process. Children were encouraged to choose responses that represented their personal opinions and preferences and were assured that there were no wrong answers, and there was no time limit to respond. Materialism and gratitude questionnaires were counterbalanced, and the entire survey took 15-30 min to complete, with younger children taking more time because of the extra assistance and their slower reading and writing speeds. All children were monitored to assure that all survey questions were answered. As per university policies, the entire protocol was approved by the Institutional Review Board prior to data collection.

Measures

Imaginary windfall. Spending preferences were assessed using procedures adapted from Kasser (2005) for clarity and developmental appropriateness. Children were given the following prompt, "Imagine that you get \$100. You can spend it in any of these four ways. You can BUY stuff for yourself. You can GIVE to charity or the poor. You can get PRESENTS for friends or family.

You can SAVE for the future. You can decide how you want to use your money”. Then, the children were told that the \$100 was split equally among ten boxes, each representing \$10, and each of the ten boxes could be allocated to one of the four spending categories. The survey had ten boxes lined up horizontally, with each box entitled “\$10” and each containing the words “BUY”, “GIVE”, “PRESENTS” and “SAVE”. Thus, every box had \$10 to spend on any of the four options described above, and children were instructed to circle one of these options for each box. For each of the four options, possible total responses for each child ranged from 0 (never circled) to 10 (circled in every one of the ten boxes). The number of times children circled each category was summed across the ten boxes.

Children’s materialism questionnaire. A five-item scale was used to assess children’s materialism attitudes using questions that measure the importance they attribute to material goods (e.g. “When you grow up, do you want to have a really nice house filled with all kinds of cool stuff?) and money (e.g. “Is it important to you that you make a lot of money when you grow up?”) (Tudge and Freitas, 2011). All items were scored on a 1 = *no, not at all* to 5 = *yes, always* scale. The internal consistency of this scale was 0.72.

Gratitude questionnaire. Children’s gratitude was measured through a four-item questionnaire that tapped into a range of attitudes regarding gratefulness toward people who have helped them or given them material goods (e.g. “Do you think it’s good to do something nice for people who have given you things?”) (Tudge and Freitas, 2010). These items tap into the concrete or connective aspects of gratitude in which children recognize the kindness or generosity of a benefactor and assert the importance of returning the favor. Each item was scored on a 1 = *never* to 5 = *yes, always* scale. The internal consistency was 0.62.

Table II. Bivariate correlations and means (SDs) of primary study variables

Variable	(1)	(2)	(3)	(4)	(5)	(6)	<i>M (SD)</i>
(1) Buy	–						3.64 (0.85)
(2) Save	–0.40***	–					2.33 (2.09)
(3) Gifts	–0.10	–0.47***	–				2.02 (1.83)
(4) Charity	–0.28***	–0.44***	–0.14*	–			3.55 (2.75)
(5) Materialism	0.10	0.15*	–0.02	–0.28***	–		2.60 (2.14)
(6) Gratitude	–0.05	–0.02	–0.01	0.14*	–0.02		4.53 (0.61)
(7) Age	–0.03	0.05	–0.11 ⁺	0.09	–0.02	0.22***	9.85 (1.10)

Notes: ⁺ $p < 0.10$ * $p < 0.05$ *** $p < 0.001$

Results

Descriptive and preliminary analyses

Bivariate correlations, means and standard deviations among primary study variables are presented in Table II. As shown, greater materialistic attitudes were significantly associated with more saving and less spending money on charity. As might be expected, greater preferences for buying things for oneself were inversely related to saving and spending money on charity. The intention to use resources to buy gifts for others was negatively associated with saving, and both buying gifts for others and saving were negatively associated with giving money to charity.

Descriptively, the most common spending preference was to save money for the future, which was preferred significantly more than the other three options (t range = 3.15-5.63, $p < 0.01$) (Figure 1). The next most common spending preference was to give to charity, followed by buying things for oneself. The least preferred option was buying gifts for others. The means on the materialism and gratitude questionnaires fell around the middle range of the five-point scale.

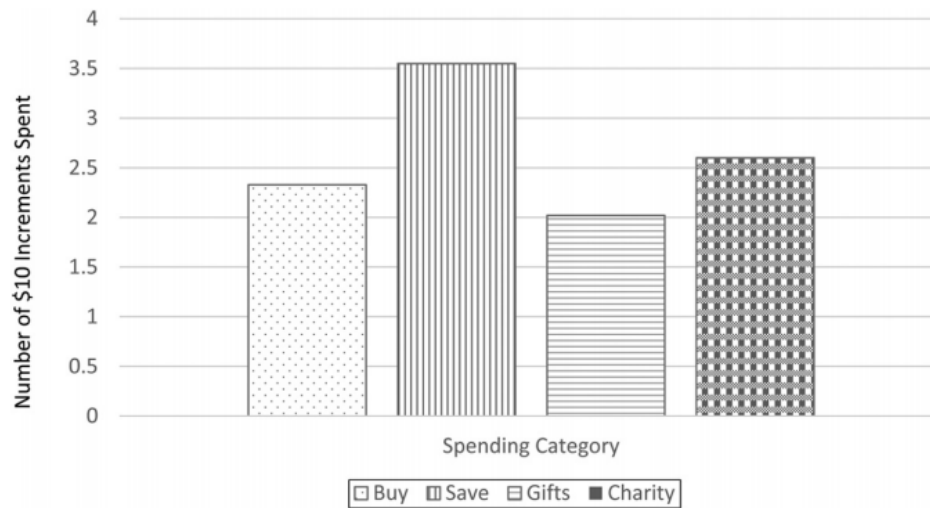


Figure 1. Frequencies of children’s spending tendencies

Age and gender differences in spending, materialism and gratitude

Also shown in Table II, age was not significantly correlated with spending or materialism (r range = from -0.11 to 0.09 , ns). However, age was positively correlated with higher scores on the gratitude questionnaire ($r = 0.22$, $p < 0.001$).

A series of independent samples t -tests revealed no gender differences in spending preferences or materialism (t range = 0.02 - $.86$, ns). However, gender differences in gratitude were found [$t(242) = 3.57$, $p < 0.001$]. As expected, girls reported higher levels of gratitude ($M = 4.69$, $SD = 0.46$) than did boys ($M = 4.42$, $SD = 0.66$).

Main and interactive effects of materialism and gratitude on children’s spending

A series of hierarchical regressions examined main and interactive effects of materialism and gratitude on spending. Materialism and gratitude were each centered at the mean before creating the interaction term. The four spending categories (i.e. buy, save, gifts and charity) were examined in separate models. Given that neither age nor gender had strong or consistent effects on spending, we did not include these variables as covariates. Moreover, in preliminary tests, their inclusion did not substantively change the pattern or significance of our regression results.

As shown in Table III, when materialism and gratitude were entered into the same model predicting spending, higher materialism was significantly associated with a greater preference to save and a lower preference to give money to charity. Materialism was also associated with buying preferences, but this effect was only marginally significant. Only one statistically

significant main effect of gratitude was found in that higher gratitude was linked with a greater preference to give to charity. One interactive effect was also found. As illustrated in Figure 2, the tendency for greater materialism to be associated with greater saving preferences appeared to be attenuated by high levels of gratitude. However, simple slopes analyses, which stratified the interactive effect of gratitude at 1 SD above and below the mean, revealed that neither the slope for high ($b = 0.94$) nor low ($b = 0.02$) levels of gratitude was statistically significant. Overall, the main and interactive effects predicted a significant amount of variance for children's saving and giving money to charity, explaining 4 and 9 per cent of variance, respectively. Only 2 and 1 per cent of the variance in buying or giving gifts, respectively, was explained by materialism and gratitude.

Table III. Regression with materialism and gratitude predicting spending preferences

Model variables	Buy			Save			Gifts			Charity		
	b	SE	β	b	SE	β	b	SE	β	b	SE	β
Materialism	0.26	0.16	0.11 ⁺	0.48	0.20	0.15*	-0.04	0.14	-0.02	-0.68	0.16	-0.28***
Gratitude	-0.19	0.22	-0.06	-0.11	0.29	-0.03	-0.01	0.20	0.00	0.49	0.22	0.14*
Materialism \times gratitude	0.19	0.26	0.05	-0.75	0.33	-0.15*	0.22	0.23	0.07	0.25	0.25	0.06
R^2	0.02			0.04*			0.01			0.09***		

Notes: ⁺ $p < 0.10$ * $p < 0.05$ *** $p < 0.001$

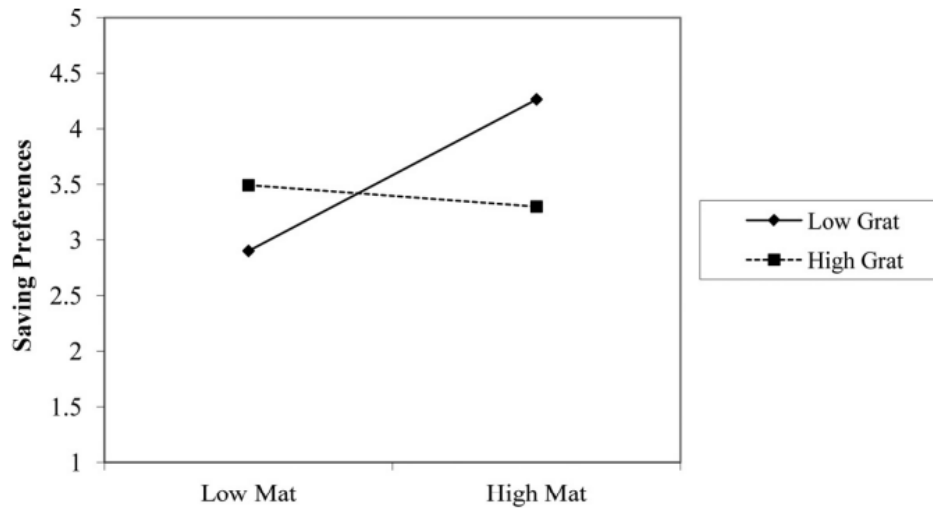


Figure 2. Interactive effects of materialism and gratitude in predicting children's saving preferences

Discussion

In the USA, the marketing of material goods is a billion-dollar industry and rests on the assumption that individuals have the will and the means to purchase goods and services. Adults have been targeted as primary purchasers, but younger and younger children have been conceived as consumers with tremendous buying power, both individually and in their ability to influence their family's spending practices (Calvert, 2008; Kunkel, 2001). Such marketing practices can be harmful to the young consumer, as well as to society as a whole, given that materialism has many intra- and interpersonal costs by way of compromising well-being, social relationships and other indicators of psychosocial health (Kasser, 2016). Despite the societal and

interpersonal relevance of understanding economic attitudes toward material goods and possessions, children's spending preferences are not well understood, especially from within a developmental science framework (Calvert, 2008; Kasser, 2005). Addressing this literature gap has important implications in terms of children's consumerism and prosocial development, as well as more general environmental sustainability. The primary aim of the current study was to explore age and gender variation in the way children allocate resources when offered an imaginary windfall and to examine how these preferred allocations are related to materialism attitudes and gratitude.

Descriptively, we first examined bivariate associations and means. As expected, higher levels of materialism (e.g. wanting to own cool things and attaching importance to making money) were inversely correlated with preferences toward giving to charity, supporting some prior work that suggests that materialism is linked to behaviors that are less socially conscious (Briggs *et al.*, 2007). Materialism was also positively correlated with saving one's resources. The correlation between materialism and buying preferences was also in the positive direction, but not statistically significant. Interestingly, the most common spending category that was endorsed overall was saving, and these preferences were significantly higher than the preferences in the other three categories. The next most common spending preference was to give to charity. Collectively, these results suggest a more positive picture of children's spending than is commonly portrayed in the literature (Kasser, 2005). Despite foundational work highlighting the consumer-driven attitudes of US children and the increased emphasis on the marketing of material goods to younger and younger children (Belk, 1984; Calvert, 2008), it seems that children's first impulse when given an imaginary windfall was not to immediately buy things for oneself. Rather, children preferred to save one's resources for later, which has implications for understanding children's self-regulation and their ability to delay gratification. That said, it is important to highlight that this measure is based on a hypothetical situation. How children might respond when given real money to spend remains an empirical question.

In terms of these saving preferences, the strong association with materialism is notable. Perhaps, children who place great value on material goods and money see the utility in saving resources for later purchases. Another explanation is that the items on the materialism scale were highly future-oriented. It is possible that such wording contributed to children thinking more about the future and, hence, saving their resources. It is also possible that, in the twenty-first century, children realize that \$100 might not go very far. Perhaps, children indicated preferences to save so that they would be able to purchase an object that is worth much more than \$100. Indeed, we do not have any information on what, exactly, children intended to save their money for. The intention could have been to save or pool their resources for their own use and later purchase of material goods or to save and ultimately spend their money on getting gifts for others or even to give to charity. These intentions, which were not assessed in the present study, have obvious implications for how these results should be interpreted and should be more carefully examined in future work.

In terms of demographic variation, we expected that age would be correlated with preferences to save or spend on others (e.g. gifts to others and donations to charity). We also expected that age would be associated with lower materialism attitudes and higher gratitude. Although developmental theory and prior work (Belk, 1985; Csikszentmihalyi and Rochberg-Halton, 1981;

Inhelder and Piaget, 1958) support the idea that saving and prosocial spending would come with greater cognitive maturity and prosocial orientation, contrary to these expectations, age was neither associated with spending preferences nor materialism in the current study. Perhaps, this lack of association was because of children reporting strong preferences for saving, overall. It is also possible that our imaginary windfall scenario was not sensitive enough to detect meaningful age differences in responses. However, not all prior work has found evidence for age differences in materialism or spending (Kasser, 2005), and older children did tend to report relatively higher levels of gratitude. More research that incorporates a larger sample and wider range of ages could be helpful in replicating and extending our results.

With regard to gender, our expectations that girls compared to boys would spend their money in more prosocial (e.g. gifts and charity) and less self-centered ways (e.g. buy and save), be less materialistic and express more gratitude were partially supported. As foundational work on gender roles would expect (Gilligan, 1982; Jaffe and Hyde, 2000), the girls in our sample tended to be more socially oriented than were boys, at least with respect to reporting more gratitude. However, girls and boys did not differ with respect to spending preferences or materialism. It is again notable that gender differences have not always been consistent in prior work. For example, although some empirical work does support variations that are in line with our original expectations (Kasser and Ryan, 1993; Weissbrod, 1980), Kasser (2005) found that boys were only marginally higher on materialism than were girls.

When materialism and gratitude were entered into the same model, stronger support for the predictive role of materialism in contributing to children's spending preferences was found. More specifically, in partial support of our hypotheses, higher materialism was significantly associated with a greater preference for saving, a lower preference for giving money to charity and a greater preference for buying, although the link with buying was only marginally significant. In contrast, only one statistically significant main effect of gratitude was found in that higher gratitude was associated with a greater preference for giving to charity. It thus appears that, compared to gratitude, materialism has relatively stronger effects on children's spending preferences, which contrasts with prior work suggesting that gratitude has more consistent and stronger explanatory power than materialism in predicting children's outcomes (Froh *et al.*, 2011).

Notably, one interactive effect was found; the tendency for greater materialism to be associated with greater saving preferences was attenuated by gratitude. This pattern of results suggests that the best savers of resources comprise children who report simultaneously high levels of materialism and low levels of gratitude. These children appear particularly thrifty and frugal and are perhaps preparing for the future in ways that are focused on the self, whereas children with higher levels of gratitude appear more likely to spend at least some of their resources in more explicitly prosocial ways. These results are generally consistent with prior work suggesting that materialism and gratitude are intricately related to important outcomes (e.g. well-being) (Froh *et al.*, 2011), but more research is necessary to better understand their possible interactive associations, as well as their associations with each other. Indeed, in contrast to perspectives that view materialism and gratitude as being on opposite ends of a spectrum (Froh *et al.*, 2011; Schwartz, 2012), in our study, these two variables were not correlated with each other at all.

Their possible link thus appears complex, and further work that systematically examines how they reflect independent, dual or potentially opposing forces in development would be useful.

Despite the limited variance that was explained by our models, the relatively strong link between materialism and preferences to save money for the future is notable. Intuitively, savings could imply future spending (which would be related to materialism), and it seems that, even at this young age, children are able to delay instant gratification related to buying and, rather, save for the future. It would be interesting for future work to systematically explore possible links between materialism, spending and self-regulation strategies and determine whether the children who are savers and better prone to delay spending actually exhibit healthier outcomes, as self-regulation research would appear to suggest (Tobin and Graziano, 2010). Again, it would also be crucial to better understand for what, exactly, children are intending to save their resources. Perhaps, their saving preferences are egocentric or self-centered (e.g. saving up for a huge house), and, indeed, the specific items in our measure of materialism do reference such material goods as a “really nice house filled with all kinds of cool stuff” and “things that impress other people”. It is also possible, however, that children’s motivations to save are more prosocial (e.g. saving to buy a car for parents and saving to start a charity).

In terms of materialism, more generally speaking, it could also be that some aspects of hedonistic materialism boost social connections. For example, individuals could value a large home, not because of the home itself but because of the ability to host friends and family and enhance kinship ties. Hence, what would be important to examine in future work is the individual meaning that children attach to material objects, the reasons for why they might prefer to save their resources and whether developmental and cultural differences in such patterns and preferences might exist (Csikszentmihalyi and Rochberg-Halton, 1978).

One of the primary limitations of the current study was its use of cross-sectional data. Although some insights on age-related variation can be gleaned, it would be important for future work to incorporate longitudinal data to track both intra-individual and normative changes in materialism and gratitude over time. The lack of longitudinal data also limits our interpretations of causality. For instance, it is likely that economic attitudes predict spending preferences, but it is also possible that children who prefer to save their resources subsequently develop strong attitudes and a high value toward those very resources. Related to this idea, it is important to note that our sample was deliberately recruited to reflect a range of ethnic and socioeconomic variability. However, our data were drawn from just one region of the USA. Generalizability to youth in other geographic areas of the country with different demographic characteristics or to same-age youth in other countries with similar or different value systems is yet unclear.

Another meaningful direction for future research is to further explore the developmental implications of spending preferences. Some research has shown that children as young as 19 months exhibit greater levels of happiness when giving away a treat to others rather than receiving a treat themselves, which ultimately creates a positive feedback loop between prosocial giving and positive affect (Aknin *et al.*, 2012). Other work similarly suggests that children’s generosity is positively associated with self-esteem and self-efficacy (Fincham and Barling, 1978; Kasser, 2005; Miller *et al.*, 1981). A collection of attitudes and behaviors implied by the constructs studied here – prosocial spending, lower valuing of material goods and greater

gratitude – could all be linked to better psychological adjustment, and further work could help illuminate these key associations.

Moreover, in continuing to build the research literature with a specific focus on children, it is important to ensure that assessments are developmentally appropriate. Although the imaginary windfall measure has been successfully used in other child samples and in our own, it is possible that our inquiry into hypothetical and abstract monetary values was challenging for some children and that other measures of spending preferences might be more effective. Along these lines, researchers could explore the use of innovative methodological approaches, such as qualitative interviews or observations of spending preferences and resource allocation. In addition, using experimental methods to directly manipulate materialism or gratitude or spending parameters themselves could provide useful information about causality (Kasser, 2016).

Examining specific contextual factors that might encourage more or less materialism or gratitude under certain situations also could be particularly worthwhile not only among children but also with older samples. On a broader scale, examining contextual differences across cultures and societies that vary in their overall emphasis on consumerism could be informative. Even research among capitalistic countries with different forms of capitalism show strong differences in consumerism and values that may affect materialism (Kasser and Linn, 2016). For example, in certain capitalistic countries, children are protected from advertising or see a minimal amount compared to other countries where children may see 13 min of commercials for every 1 h of television programming. It is logical to think that nations with other economic systems may even have greater differences.

Limitations notwithstanding, the results of our study have important implications for understanding children's consumer behaviors, as well as providing insight into their self-regulation and ability to delay gratification. Although our findings provide preliminary evidence that economic attitudes and gratitude are both meaningful to consider in terms of children's resource allocation, it is worth noting that little to modest variation in spending preferences was actually explained overall (1-9 per cent, depending on the spending category). Hence, examining other contributing factors that have been shown to predict children's spending, such as frugality and generosity, and looking at their relation to gratitude may provide greater explanatory power (Kasser, 2005).

As consumers, children are incessantly exposed to advertisements, celebrity endorsements and other forms of marketing, and it is imperative to better understand how such direct marketing strategies play a role in shaping children's materialistic and prosocial values. Our work suggests that these constructs are linked, and, perhaps, one practical goal for parents and adults is to help children become savvy consumers of such marketing and media messages. For instance, some research shows that advertisements have less of an impact on children's materialism when parents actively critique commercials and intervene in helping their children process information from advertisements (Buijzen and Valkenburg, 2005). Encouraging connective gratitude in children, for example, by encouraging children to feel grateful to the person who provided a gift rather than for the actual gift, could also be effective in decreasing materialism and consumerism.

In light of children's tremendous spending power, it is crucial and timely for research to further uncover meaningful predictors of spending preferences and develop frameworks with which to conceptualize children's economic attitudes and behaviors (Blazquez and Bonas, 2013). The desire for more, newer and "better" things is, of course, completely unsustainable. Indeed, research has shown that materialism is associated with less ecologically and environmentally friendly attitudes (Hurst *et al.*, 2013). Kasser (2016) and Kasser and Linn (2016) recommend sweeping policy changes that could help decrease the American emphasis on consumerism (e.g. ban advertising targeted at children, as has been done in some countries such as Brazil and Norway). However, short of such societal change, it may be the case that simply encouraging children to feel and express gratitude to their benefactors and decreasing the focus on the gifts or goods themselves may reduce hedonistic desire and boost environmental sustainability. Indeed, materialism, with its emphasis on consumption, and gratitude, with its positive feedback loop that encourages prosocial connections with others, are particularly relevant avenues to continue examining in future research, perhaps in more nuanced and detailed ways.

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