



Building Character:

Effects of Lay Theories of Self-Control on the Selection of Products for Children

ANIRBAN MUKHOPADHYAY

CATHERINE W. M. YEUNG*

*Anirban Mukhopadhyay (anirbanm@umich.edu) is assistant professor of marketing at the Ross School of Business, University of Michigan, 701 Tappan Street, Ann Arbor MI 48109; Catherine W. M. Yeung (cyeung@nus.edu.sg) is associate professor of marketing at the NUS Business School, National University of Singapore, Singapore 117592. Both authors contributed equally to this research and correspondence may be addressed to either. This research was supported by grants from the Hong Kong Research Grants Council (HKUST6463/05H) and National University of Singapore Academic Research Fund. The authors thank Ayelet Fishbach, Andy Gershoff, Teck Ho, Gita Johar, Aparna Labroo, Xiuping Li, and David Wooten for their helpful comments, and Agnes Chan and Fiona Yiu for invaluable research assistance.



Journal of Marketing Research
Article Postprint, Volume XLVI
©2009, American Marketing Association
Cannot be reprinted without the express permission of the American Marketing Association

This research studies the effect of consumers' lay theories of self-control on their choices of products for young children. The authors find that people who hold the implicit assumption that self-control is a small resource that can be increased over time ("limited-malleable theorists") are more likely to engage in behaviors that may benefit children's self-control. In contrast, others who believe either that self-control is a very large resource ("unlimited theorists") or that it cannot increase over time ("fixed theorists") are less likely to engage in such behaviors. Field experiments conducted with parents demonstrate that limited-malleable theorists take their children less frequently to fast-food restaurants, give their children unhealthy snacks less often, and prefer educational to entertaining television programs for them. Similar patterns are observed when non-parent adults make choices on gifts for children or while babysitting. These effects are obtained with lay theories measured as well as manipulated, and after controlling for demographic and psychological characteristics including own self-control. These results contribute to the literatures on self-control, parenting, and consumer socialization.

Keywords: lay theories, self-control, parenting, consumer socialization, social influences

Consider the following scenario that may be familiar to most parents of young children—it is half an hour before dinner and the 5-year-old asks for some chips and soda. Also, he is supposed to do his homework but he asks to watch a cartoon first. How do parents handle this type of request? Some parents act as gatekeepers regulating consumption, while others follow a *laissez-faire* policy. Either way, how parents respond to children's consumption-related requests plays an important role in their socialization as consumers, since socialization processes often permeate more through subtle social interaction than purposive educational efforts (John 1999). Under parental direction, a child can learn self-control and related skills such as how to shift attention away from temptation and anticipate negative consequences of succumbing (Darling and Steinberg 1993; Maccoby 1980), and every such decision point is an opportunity to develop a child's self-control.

However, many parents do not take such steps, and instead allow children to indulge themselves more often than not. What determines whether parents, and any concerned adults, engage in behaviors that can improve a child's self-control? One possibility is that responses might depend on situational criteria such as the likelihood of sparking a tantrum and whether one is in a public place or not. In this research, we suggest that adults' lay theories of self-control, i.e., their beliefs about the basic amount and extendability of people's self-control, are key predictive factors in their decisions for children. We show that when individuals believe that people *in general* have a limited amount of self-control, and that this amount is augmentable over time (namely, "limited-malleable theorists"; Mukhopadhyay and Johar [2005]), they tend to choose products and engage in behaviors that are consistent with the development of children's self-control. In contrast, when individuals believe that people in general have unlimited stores of self-control ("unlimited theorists"), or that self-control is not modifiable ("fixed theorists"), they tend

to make decisions that are inconsistent with the nurturing of children's self-control. This occurs even though these beliefs may be inapplicable to children's self-control, which is generally thought to be limited but modifiable. In what follows, we develop these hypotheses and then present the results of experiments conducted in the laboratory as well as with parents intercepted in the field, that support the hypotheses and present insights into the underlying process.

THEORETICAL FRAMEWORK

Self-control in Young Children

Self-control, or the ability to maintain goal-directed behavior in the face of temptations (Metcalf and Mischel 1999), is one of the foundational components of a child's moral development (Berkowitz and Grych 1998). Self-control at a young age is highly predictive of competence across various diverse aspects of adult life, as evidenced by Mischel and colleagues. These researchers looked at how children of preschool age respond when faced with a choice between an attractive small item (e.g., a cookie) to be obtained immediately and a larger quantity of the same item to be obtained after a delay (usually twenty minutes; see Mischel, Ayduk, and Mendoza-Denton 2003 for an extensive review). The researchers then followed up on the same children after intervals of several years. They found that young children's ability to delay gratification (which reflects their ability to exercise self-control) can predict Scholastic Aptitude Test (SAT) scores over a decade later (Shoda, Mischel, and Peake 1990). Moreover, those children who were better able to delay gratification as pre-schoolers were as adolescents also described as being more attentive, better able to concentrate, tolerate frustration, and cope with stress. Hence the ability to delay gratification, or more generally, the ability to exercise self-

control at a young age appears to be highly predictive of competence in later life. This evidence suggests that the nurturance of children's self-control skills should begin in early childhood.

What do adults think about children's self-control and how do such beliefs determine their tendency to nurture children's self-control? We conducted a preliminary study to determine (i) adults' beliefs about children's self-control, and (ii) the effect these beliefs have if called into attention while making a decision for children. Thirty-nine adults (22 of whom have at least one child 4-5 years old) participated in this survey. They first indicated their agreement, on 7-point scales, with two items concerning the amount of children's self-control ("Children aged 4-5 years are limited in their ability to control themselves" and "Beyond a certain point, children aged 4-5 years cannot hold themselves back"), followed by two items concerning how much it can be changed ("There is nothing parents can do to change children's self-control" and "Incentives can be used to motivate, and threats or punishments can be used to discourage, but children cannot really change their ability to control themselves"). Next, they read about a scenario involving a demand for junk food before dinner, and indicated how likely they were to give in to the demand. Results showed that the response to the first two items averaged was significantly higher than the scale mid-point ($M = 5.41$, $t(38) = 7.97$, $p < .001$; $median = 5.50$; $SD = 1.11$), suggesting that people generally agree that young children have limited self-control. Further, the response to the next two items averaged was lower than the scale mid-point ($M = 2.29$; $t(38) = -8.45$; $p < .001$; $median = 2.00$; $SD = 1.26$), indicating disagreement with the statement that nothing can be done to change self-control. Evidently, there is some consensus that children's self-control, although limited, can be improved. Moreover, respondents stated that they were unlikely to give in to the demand for junk food before dinner ($M = 2.54$; significantly lower than the scale midpoint, $p < .001$; $median = 2.00$; $SD = 1.32$). This suggests that if their

beliefs about children's self-control are called into attention when making decisions for children, as they were here, people will be unlikely to indulge them.

However, in contrast to the above findings, it is evident that adults are indeed often permissive to indulgence and inattentive to uncontrolled behaviors. Why might this be so? One possibility involves a projection bias: namely, that beliefs other than those pertaining specifically to young children are (inappropriately) used as inputs, leading to decisions that are inconsistent with the nurturing of children's self-control. In this research, we propose that adults' lay beliefs about the self-control of people in general, rather than of children in particular, play a crucial role in influencing their inclination to take actions that may help develop children's self-control.

Lay Theories of Self-Control

Lay theories, or implicit theories, are basic assumptions that ordinary people hold about themselves and their world (Dweck 1996). They have been shown to have a variety of effects in contexts as diverse as goal-directed behavior (Mukhopadhyay and Johar 2005), hedonic adaptation (Novemsky and Ratner 2003), and predicted emotion (Xu and Schwarz 2009). Lay theories pertaining to human attributes (e.g., intelligence or self-control) in particular are "what ordinary men and women believe about the existence and power of individual differences in personality" (Ross and Nisbett 1991). People use their lay theories to interpret events and experiences, leading to systematic patterns of behavior. Dweck's program of research (see Dweck 1999), which stands as the main body of work on the behavioral effects of lay theories, draws a distinction between 'incremental theorists' who believe that ability and intelligence are malleable quantities which can be improved through effort, and 'entity theorists' who believe these are fixed quantities which cannot be changed. Dweck and colleagues showed that when

incremental theorists fail a task, they treat failure as a challenge, conclude that they can improve by exerting more effort and, therefore are likely to persist. In contrast, entity theorists attribute their failure to an inherent lack of ability, conclude that they are unlikely to succeed and, therefore, tend to give up (Dweck and Leggett 1988). In short, the different theories people hold create frameworks that foster different meanings to outcomes and promote different reactions.

While Dweck's research addresses lay theories of intelligence, there is growing interest in investigating lay theories pertinent to other constructs, such as self-control. Building on Dweck's work, Mukhopadhyay and Johar (2005) examined the effect of the belief that self-control is a malleable versus fixed resource on personal goal setting and achievement. Further, they argued that over and above beliefs about the malleability of self-control, people may also hold a theory about how much self-control one typically has. Hence lay theories of self-control can vary along two theoretically orthogonal dimensions. One pertains to the quantum of self-control: the belief that people in general may have small amounts of self-control (in accordance with Muraven and Baumeister 2000) or large amounts (in accordance with much of Western philosophy, cf. Descartes 1649). The other dimension pertains to its changeability over time (fixed for all time versus malleable over time). Hence, Mukhopadhyay and Johar (2005) identified four distinct lay theories of self-control -- Limited-Fixed (small reserves that do not change over time), Limited-Malleable (small reserves that can be increased over time), Unlimited-Fixed (very large reserves that do not change over time), and Unlimited-Malleable (very large reserves that can be increased even further). These researchers demonstrated that lay theories of self-control can influence behaviors independently of actual self-control; self-rated self-control in their studies did not have any effect on the patterns they observed, and controlling for own self-control did not influence their results. This is because one's actual self-control

refers to the actual ability to control oneself, whereas one's lay theory of self-control concerns itself with what one *believes* about the nature of self-control *of people in general*.

The lay theories identified by Mukhopadhyay and Johar (2005) are relevant to the present research because differences in beliefs about the nature of self-control may prompt different inclinations to engage in behaviors that develop children's self-control. Though the referent of these lay theories is "people in general", if they are implicitly held in belief systems (as per Dweck 1996), they may be spontaneously projected onto other subgroups to which they are not necessarily applicable (e.g., children), and influence behaviors towards these subgroups. To illustrate, consider a limited-malleable theorist--someone who believes that people tend to have a small reserve of self-control, which may increase over time. Such a person is likely to recognize that the amount of self-control available may not be enough to accommodate all demands, so it is useful to gear up the reserves of self-control. This belief, together with the belief that self-control can actually be improved, may foster a motivation to carry out actions that help develop self-control whenever appropriate (see Dweck 1996 for a similar argument that a belief in a dynamic, malleable attribute orients individuals toward the goals of developing that attribute). As such, when limited-malleable theorists find themselves in situations where they can develop self-control, they will be inclined to act in ways that facilitate it. For example, this inclination might be triggered when a child asks a limited-malleable theorist for junk food before dinner, leading the adult to deny the child thereby taking a small step in the development of self-control. Note that the adult need not be explicitly thinking about training the child's self-control, because the use of lay theories (as the use of other knowledge that is implicitly held) can be triggered by features of the situational environment without conscious awareness (Bargh 1997). In short, we predict that whenever appropriate, limited-malleable theorists will be likely to involve children

in behaviors that require self-control, and to inculcate an affinity for products that deliver greater value in the long- rather than in the short-term (i.e., ‘relative virtues’, Wertebroch 1998).

In contrast to limited-malleable theorists, unlimited-malleable theorists believe that people in general have large reserves of self-control that can be developed further. Presumably, the belief that self-control is improvable will orient these theorists toward the goal of developing self-control. However, the belief that reserves of self-control are already large may lessen the value of further developing these reserves. Moreover, if a decision involves options that can deliver instant gratification (e.g., yielding to the child’s demands causes the child to instantly be happy thereby giving the parent a moment’s peace), the development of self-control may not be a priority, and they may be less likely to deny the child’s demands. Therefore, we predict that *relative to limited-malleable theorists*, unlimited-malleable theorists prefer products that deliver instant gratification over those that deliver a greater long-term value (i.e., ‘relative vices’).

What about fixed theorists? Fixed theorists believe that reserves of self-control can not be increased over time. In this worldview, the decision of whether to give in to a child’s demand or not is not considered to be relevant to the development of self-control, and therefore their lay theories of self-control should not be brought to bear on the decision. This is likely to be the case regardless of whether they also hold a limited or an unlimited theory. As a result, we predict that fixed theorists who believe that self-control is a limited versus unlimited resource will not differ in the degree to which they prefer virtues or vices for children.

Summary

To summarize, we propose that limited-malleable theorists will be more likely to engage in behaviors that are consistent with developing children’s self-control than unlimited-malleable

theorists. Thus, limited-malleable theorists will be more likely to make choices that require children to exercise self control, and inculcate an affinity for relative virtues rather than vices. In contrast, limited-fixed and unlimited-fixed theorists will not differ in terms of their choice between virtues and vices. We test these predictions across multiple experiments, including field studies with parents of young children and laboratory studies with non-parent students, and across a range of domains. In experiment 1, we find as predicted that parents who are limited-malleable theorists are more likely than unlimited-malleable theorists to restrict unhealthy snacking and fast food consumption. We replicated this finding in a follow-up study in which parents' choice for educational (vs. entertaining) television programs for their children was examined. Experiment 2 extends the investigation to non-parent adults' choices of gifts for children, showing that limited-malleable theorists are most likely to choose gifts that deliver delayed gratification. Experiment 3 pins down the causal role of lay theories by replicating the pattern with lay theories manipulated and providing relevant process measures. Finally, experiment 4 demonstrates that self-reported own self-control cannot account for the results.

EXPERIMENT 1: FAST FOOD AND SNACKING ALLOWANCES

The aim of this study was to examine the influence of parents' lay theories on the choices they make for their own children. The domain of investigation was the consumption of unhealthy food – an important issue in its own right. Recently, New York State banned trans-fats from all restaurants, and mandated the display of calorie information on all food items in fast food restaurants. This stems in part from growing awareness of the harmful effects of fast food on children. Munoz et al. (1997) estimated that as much as half of the average child's daily calorie

intake was unhealthy, being derived from fat and sugar from junk foods. However, fast foods are tasty and extremely tempting, and young children can hardly resist the temptation. If parents do not impose constraints on children's consumption of fast food, and instead are overly permissive in satisfying their cravings, the development of their self-control skills may be impaired. On the other hand, if parents set controls over children's consumption of fast food, they may gradually pick up the skills of enforcing standards and becoming self-controlled (Dweck 1999; John 1999).

Our basic hypothesis is that limited-malleable theorists are more likely to regulate children's consumption of fast food and therefore are less likely to visit fast food restaurants with their children than unlimited-malleable theorists, who are less concerned about development of self-control and therefore set a comparatively higher value on instant gratification. We also predict that fixed theorists, regardless of whether they hold a limited or unlimited theory, would be similar in terms of the frequency with which they visit fast food restaurants with their children.

Method

Research assistants blind to the hypotheses intercepted parents of children between the ages of four and six, at malls, playgrounds, and outside nurseries. One hundred and eighty-nine responses were collected in Hong Kong and Singapore.¹ Targets were identified visually, and prescreened before being asked to fill out a brief questionnaire. Interviews lasted between five and ten minutes on average. The questionnaire had three sections: an eating habits section, a personality profile, and a set of demographic questions. In the eating habits section, participants indicated how many times each month their child ate at each of three fast food restaurants—McDonald's, KFC, and Pizza Hut. These three chains are reasonably representative of the fast food options in Hong Kong and in Singapore. For example, in Hong Kong, McDonald's has a

share of approximately 80% of the hamburger market, KFC has 75% of the fried chicken market, and Pizza Hut has 80% of the pizza market (Gale Research Inc. 2002). Singapore has a similar pattern of market share distributions. After indicating how often they visited these restaurants, parents estimated how many times every week their child ate each of three types of snack food (ice cream, chocolate or candy, and salty snacks such as potato chips). Respondents were then presented with the personality profile questionnaire. This consisted of the List of Values (Kahle 1983), which encompasses a range of personality characteristics (e.g., needs for “sense of accomplishment”, “security”, and “fun and enjoyment of life”) that might possibly influence the dependent variable. This was followed by Mukhopadhyay and Johar’s (2005) measures of the two lay theories: “I believe that people are limited in their ability to control themselves” and “I believe that people cannot hold themselves back beyond a point” for the limited/unlimited theory, and “Everyone has a certain amount of self-control, and one can’t do much to change this amount” and “People can get incentives and disincentives, but they can’t really change their basic self-control” (both reverse-coded) for the fixed/malleable lay theory. All lay theory measures were taken on 7-point scales anchored at strongly disagree / strongly agree. Finally, the demographic measures collected included age of the child, number of siblings, mother’s employment status and working hours, family income, and whether the family employed a domestic helper (a common local practice that may influence child rearing practices).

Results

Separate measures were constructed for the monthly fast food consumption frequency and the weekly snack food consumption frequency by summing the reported frequencies under each head. Factor analysis on the List of Values explained 58% of the variance, revealing two

factors – needs for security (eigenvalue 3.64) and excitement (eigenvalue 1.53). Factor scores for these factors were used as controls. The items measuring the limited/unlimited lay theory ($\alpha = .69$) and fixed/malleable lay theory ($\alpha = .67$) were averaged to form separate measures of the two theories, which were then dichotomized using median splits.² The two measures were correlated ($r = .16, p < .01$) such that respondents who had more limited lay theories also tended to have more fixed lay theories. The magnitude and direction of this effect are consistent with those observed by Mukhopadhyay and Johar (2005).

A 2 (Lay theory: Unlimited vs. Limited) x 2 (Lay theory: Fixed vs. Malleable) between subjects ANCOVA was run on the fast food consumption frequency with the LoV factors and the number of siblings and family income as covariates. The analysis revealed significant effects for the number of siblings ($B = -.87, F(1, 181) = 7.07, p < .01$) such that the greater the number of children, the fewer the number of visits to fast food outlets; income ($B = .26, F(1, 181) = 3.59, p < .06$) indicating higher-income families were likely to dine out at the selected restaurants more often; and the excitement LoV factor ($B = -.48, F(1, 181) = 4.65, p < .05$), which may suggest a tendency towards variety seeking behavior. Of relevance to our hypotheses, there was a significant interaction between the two lay theories ($F(1, 181) = 4.19, p < .05$). Planned contrasts indicated, as predicted, that limited-malleable theorists reported that their children visited fast food restaurants less frequently than unlimited-malleable theorists ($M_s = 3.17$ vs. $4.64, F(1, 181) = 4.83, p < .05$). Further, as expected, there was no difference between limited-fixed and unlimited-fixed theorists ($M_s = 3.73$ vs. $3.31, F < 1, ns$).

< Insert Figure 1 about here >

We observed a similar pattern on the weekly snacking data. None of the covariates approached significance, but there was a marginal main effect of the limited/unlimited lay theory

($F(1, 181) = 3.24, p < .08$) qualified by a significant interaction between the two lay theories ($F(1, 181) = 4.18, p < .05$). Planned contrasts indicated that limited-malleable theorists were less likely to appease their children with unhealthy snacks than were unlimited-malleable theorists ($M_s = 8.81$ vs. $10.39; F(1, 181) = 7.04, p < .01$). There was again no difference between limited-fixed and unlimited-fixed theorists ($M_s = 10.29$ vs. $10.42, F < 1, ns$).

Discussion

These results provide initial evidence that parents' lay theories of self-control systematically influence their choices of products for their children. Limited-malleable theorists reported executing tighter control over the consumption of fast food and were less likely to appease their children with unhealthy snacks, as compared with unlimited-malleable theorists. As for fixed theorists, the frequency of visiting fast food restaurants and the likelihood to appease children with quickie snacks did not differ as a function of whether they believed that self-control is limited or unlimited. There seemed to be an inconsistency in the data: fixed theorists seemed to bring their children to fast-food restaurants as (in)frequently as limited-malleable theorists, but they were as likely as unlimited-malleable theorists to appease children with unhealthy snacks. This pattern, however, is not inconsistent with our hypotheses. Our theory only predicts that limited-fixed and unlimited-fixed theorists will be similar because they tend not to consider the development of self-control as a basis for their decisions. Our theory does not speak to what criteria fixed theorists eventually do consider in making their decisions. We therefore do not exclude the possibility that they may use different criteria in different situations, reflecting some baseline propensities that our theory is agnostic towards. Indeed, as Wyer (2004) avers, many different theories may be brought to bear on a given judgment, and

which theory is applied is determined by its relative applicability and accessibility. Thus, since we argue that fixed theorists perceive lay theories of self-control as irrelevant (and therefore inapplicable) in the above situations, we expect their decisions to be driven by other criteria not related to lay theories of self-control, and hence outside the scope of the current research.

Follow-up study. The results of experiment 1 are constrained by the fact that our chosen sets of snacks and fast food restaurants do not cover all available options. However, to the extent that they are representative of the universe of choices, these results support our hypotheses. We sought to assess the generalizability of these findings by conducting a similar experiment in another important domain—television viewing. As in experiment 1, research assistants intercepted parents of children between the ages of four and six, at various venues around Hong Kong. The questionnaire administered again had three sections: a television viewing section and the same sets of demographic questions and personality profile as before. In the television viewing section, parents were presented with a list of eight popular television programs which had been identified after consultation with local parents and day care professionals. These had been carefully selected such that four were primarily educational (e.g., Sesame Street) and four primarily entertainment (e.g., Masked Rider 555). The selected programs were matched on language (English versus Cantonese), genre (cartoon versus non-cartoon), and availability (cable / subscription channel versus free local broadcast). Parents were asked to pick programs that they generally wanted their child to watch. Indices of relative preference for educational programs were constructed by subtracting the number of entertainment programs chosen from the number of educational programs chosen. Reassuringly, the finding was consistent with that of experiment 1. As expected, limited-malleable theorists showed a greater relative preference for educational programs than did unlimited-malleable theorists ($M_s = .70$ vs. $-.11$, $F(1, 43) = 8.89$, $p < .01$), and

limited-fixed and unlimited-fixed theorists did not differ in their preferences ($F < 1$).

On a substantive front, these results demonstrate that parents' lay theories have an effect in yet another important real-world domain. Media and diet are probably the two most hotly contested areas as far as marketing to children is concerned, and research has shown that the total amount of time devoted to television viewing is greater in households that have lower income (Kaiser Family Foundation 1999). However, these differences operate over a high baseline: most children view at least three hours of television and video every day. Given this level of exposure, our findings suggest that parents' lay theories play an important role in determining what they allow their children to watch and the nature of the messages their children attend to.

Replication and process insights. The results thus far demonstrate that parents' lay theories have an effect on their food-related and television-viewing choices for their children. However, two potential limitations need to be addressed. First, it is possible that the lay theories we measured may somehow have been influenced by the parent's interactions with their child. That is, these lay theories might stem from parenthood or a particular child's personality. If so, people who do not have children should not share the same beliefs, and the effect of lay theories shown in experiment 1 should not replicate. In contrast, if the lay theories people report truly represent their beliefs about self-control in general, similar findings should be obtained with respondents who are not parents. We examine these possibilities in the next three experiments, which involved adults who are not parents. Second, it is possible that experiment 1, as any study conducted in the field, was subject to response biases or self-presentation biases. We therefore seek to replicate our findings in lab experiments where these sources of bias were minimized.

EXPERIMENT 2: CHOOSING A GIFT FOR A CHILD

This experiment employed a scenario in which participants were asked to choose a gift for a child. In accordance with our theorizing, people should prefer products that deliver greater value in the long- compared to the short-term only if they are inclined to develop the child's self-control, and they believe that it can be done. Those who do not have this inclination should prefer gifts that they believe the child would her/himself prefer (typically toys that deliver instant, short-term pleasure, rather than long-term value). Therefore, the inclination to train self-control can directly be inferred from the perceived tradeoff between long-term and short-term value.

Method

Participants and procedure. One hundred and fifty-three undergraduate students at a major Hong Kong university participated in return for course credit. The stimuli for this study were presented as filler materials for an unrelated study. Participants worked through the questionnaires at their own pace, and were debriefed and thanked at the end of the session.

Stimuli and design. This study consisted of two questionnaires, the first labeled "Buying a Gift for a Child" and the next "Personality Assessment Questionnaire". The first task asked participants to "Imagine that you have to buy a birthday present for a 5 year old child. This is the child of an elder cousin who is very close to you, and you really love the child, so you would like to buy as good a present as possible. Luckily, you have a coupon for 150 HK\$ [approximately US\$20] from the kids section of a large department store, so you can choose anything from there. What present would you ideally buy?" Participants described this ideal present in the space provided, then indicated whether they had a specific child in mind, and whether the gift was gender-specific. This procedure ensured that respondents selected gifts idiosyncratically rather

than being asked to choose from pre-determined products, thereby allowing for variability in preferences. They then responded to items asking “Will this present give the child great value (e.g., learning or other benefit) in the long term?”, “Will this present give the child great value (e.g., fun or happiness) in the short term?” (-3 = “Strongly disagree” / +3 = “Strongly agree”), and finally, “Does this present give the child greater value in the short term or in the long term?” (1 = “Greater short term value” / 7 = “Greater long term value”). This procedure ensured that the measurement was of respondents’ own perceptions of the extent to which their chosen product delivered value over the long- versus short-term, and not that of any external data coder who would perforce have had to make the judgment based on subjective, error-prone inferences. (As an illustration, several respondents had listed “toy” as their chosen present, and the coded value for this ambiguously described item ranged across the scale from 1 through 7.) The personality profile questionnaire consisted of the List of Values and the lay theory measures as before.

Results and Discussion

The items measuring the limited/unlimited lay theory ($\alpha = .68$) and fixed/malleable lay theory ($\alpha = .71$) were averaged to form separate measures of the two theories. The two measures were correlated ($r = .16, p < .05$), as before. A factor analysis on the List of Values again revealed two factors, representing needs for accomplishment and excitement (eigenvalues 3.39 and 2.13, respectively), explaining 61% of the variance. Factor scores for these two factors were entered into the analysis as controls.

The item directly trading off between long- and short-term value was regressed on the measures of the two lay theories, their interaction and the factor scores for seriousness and fun orientation. Only the interaction term was significant ($F(1, 147) = 4.82, p < .05$; all other terms

$F_s < 1, ns$). In order to explore this effect further, the two lay theory measures were dichotomized using median splits and a 2 (Lay theory: Fixed vs. Malleable) x 2 (Lay theory: Unlimited vs. Limited) between subjects ANOVA was run on the same dependent measure, using the two factor scores as covariates. The interaction remained significant ($F(1, 147) = 5.53, p < .05$; see figure 2) and planned contrasts revealed, as predicted, that limited-malleable theorists chose gifts that delivered greater long- than short-term value than did unlimited-malleable theorists ($M_s = 4.77$ vs. $3.79, F(1, 147) = 18.46, p < .001$). Moreover, as expected, there was no difference between limited-fixed and unlimited-fixed theorists ($M_s = 3.27$ vs. $3.51, F < 1, ns$). Interestingly, there was no effect on either of the individual measures of short-term value or long-term value ($F_s < 1$), indicating that the effect of lay theories came through not in separate evaluation, but only when respondents were explicitly asked to consider the trade-off between short and long-term value delivery. Finally, introducing gender and specificity of recipient as controls in the above analysis did not have any effects on the patterns reported above.

< Insert figure 2 about here >

These results replicated the patterns observed before, using non-parent participants and a different domain. Moreover, the key dependent variable was framed such that the gift-giver had to explicitly trade off between long- and short-term value, and the observed patterns are supportive of our theory. Evidently, it is not the choice of a specific gift but the way adults resolve this conflict that signals their inclination to develop children's self-control.

EXPERIMENT 3: MANIPULATED LAY THEORIES AND GIFT CHOICE

The aim of experiment 3 was to replicate the above results, with a strong test of causality.

When lay theories are manipulated, if those with manipulated limited-malleable theories choose gifts that deliver greater long-term value than those with manipulated unlimited-malleable theories, it is possible to unambiguously attribute the effect to the lay theories of self-control being manipulated. A second aim of this experiment was to seek additional evidence that lay theories of self-control pertaining to people in general are being projected onto children.

Method

Participants and procedure. One hundred and forty-three students at a large Hong Kong university participated in return for course credit. The stimuli for this study were presented as separate but consecutive parts of a set of unrelated studies. Participants worked through the questionnaires at their own pace, and were debriefed and thanked at the end of the session.

Stimuli and design. This experiment employed a scenario similar to study 2, with participants being asked to choose a gift for a child. The study consisted of two questionnaires, with the first one labeled “Reading Comprehension Study” followed by “Buying a Gift for a Child”. The first task was the lay theory manipulation. Corresponding to the four experimental conditions, participants read one of four possible passages, representing the two lay theories (Limited / Unlimited and Fixed / Malleable), fully crossed. These passages, taken from Mukhopadhyay and Johar (2005), consisted of two paragraphs of equal length (80 words) where in all conditions the first paragraph manipulated Limited vs. Unlimited lay theory while the second paragraph manipulated Fixed vs. Malleable lay theory. The Limited manipulation started with the statement that “Self-control is a limited resource.” It then briefly presented Muraven and Baumeister’s (2000) model, namely, the tenets that all acts of self-control require effort, which depends on a person’s current level of self-control strength, and short-term losses of self-control

can be explained as muscle fatigue. The Unlimited manipulation drew from Elster's (1979) reading of Descartes, stating that "Self-control is an unlimited resource" and asserting that "everyone has unlimited access to willpower" and "anyone can do anything" (Elster 1979, pp 55-56). The second paragraph in the Malleable condition began "Self-control is also malleable" and then stated (corresponding to Dweck's 1999 measure of incremental theories) that "it only takes some effort to change one's self-control", "one's self-control is something that can be changed quite a lot" and "just as people can learn new things, they can also change their basic self-control." The passages in the Fixed condition stated exactly the opposite. In keeping with the cover story, the passages were followed by a comprehension test ("What is self-control said to resemble?"), measures of belief in each of the two lay theories (7-point scales anchored at 1 = Limited, Fixed / 7 = Unlimited, Malleable), and a measure of how convincing the given passage was (1 = Not at all / 7 = Extremely convincing). These items functioned as manipulation checks.

Following this, participants moved on to the same gift-giving task as in experiment 2, presented on a separate questionnaire that had a different appearance and used a different font. They described their ideal present followed immediately by the dependent variable trading off perceived short- versus long-term value. In addition, to provide additional evidence that lay theories of self-control pertaining to people in general are applied to children, we asked all participants to respond to a set of items that measured their views regarding the effects of adults' actions on children's self-control, and the feasibility of developing the latter. Specific items of interest measured the perceived feasibility of teaching self-control ("Children's self-control capabilities can be improved through constant effort") and the role of parental choices ("Children learn to control themselves by watching what adults do").

Results and Discussion

Manipulation Checks. Between-subjects ANOVAs were conducted on the measures of agreement with each of the two manipulated lay theories using the complete 2 (Limited vs. Unlimited) x 2 (Fixed vs. Malleable) design. Three respondents who reported complete disagreement with the manipulated lay theory (e.g., a participant in the Malleable condition reporting an extreme belief in the Fixed theory, i.e., responding “1” on the manipulation check scale) were dropped from the analysis, as were eleven others who did not answer the comprehension question correctly, resulting in a usable sample of 129 respondents. As expected, respondents who read the Unlimited (vs. Limited) passage were more likely to believe that self-control is an unlimited resource ($M_s = 5.12$ vs. 2.80 , $F(1, 125) = 71.90$, $p < .0001$); respondents who read the Malleable (vs. Fixed) passage were more likely to believe that self-control is a malleable quantity ($M_s = 5.94$ vs. 3.32 , $F(1, 125) = 92.60$, $p < .0001$).

Hypothesis tests. A 2 (Limited vs. Unlimited) x 2 (Fixed vs. Malleable) ANOVA conducted on the perceived trade-off between long- and short-term value revealed only a significant interaction effect ($F(1, 125) = 4.68$, $p < .05$). As predicted, planned contrasts revealed that limited-malleable theorists chose gifts that delivered greater long- than short-term value than did unlimited-malleable theorists ($M_s = 4.24$ vs. 3.36 , $F(1, 125) = 4.66$, $p < .05$). As expected, there was no difference between limited-fixed and unlimited-fixed theorists ($M_s = 3.13$ vs. 3.52 , $F < 1$, ns). Further, when introduced as controls in the above analysis, neither specificity nor gender of recipient had any effects on the patterns reported above ($F_s < 1$, ns).

Similar 2 x 2 ANOVAs were conducted on the items concerning the nurturance of children’s self-control. First, a significant interaction effect was observed for the item that measured the extent of agreement with the idea that children’s self-control can be improved

through constant effort. There was a significant main effect of the fixed/malleable lay theory manipulation ($F(1, 125) = 11.20, p < .001$), qualified by an interaction ($F(1, 125) = 9.71, p < .01$). Planned contrasts revealed that limited-malleable theorists agreed more strongly with this proposition than did unlimited-malleable theorists ($M_s = 6.06$ vs. $5.49, F(1, 125) = 8.28, p < .01$), and there was no difference between limited-fixed and unlimited-fixed theorists ($M_s = 3.13$ vs. $3.52, F(1, 125) = 2.42, p > .10, ns$). A similar pattern was observed on the other measure—the statement that children learn self-control by observing the choices that adults make. Here the only significant effect was the interaction ($F(1, 125) = 5.29, p < .05$), and follow-up contrasts again revealed that limited-malleable theorists agreed more strongly than unlimited-malleable theorists ($M_s = 5.85$ vs. $5.33, F(1, 125) = 3.88, p = .05$), and there was no difference between limited-fixed and unlimited-fixed theorists ($M_s = 5.16$ vs. $5.52, F(1, 125) = 1.68, p > .10, ns$). These results mirror those observed on the main dependent variable, supporting our hypothesis that lay theories of self-control pertaining to people in general are being applied to children, and influencing actions concerning the nurturance of children's self-control. Specifically, compared to unlimited-malleable theorists, limited-malleable theorists not only have a greater inclination to give children products that involve the delay of gratification, but also believe that such actions do indeed have desired effects on children. Fixed theorists across the limited-unlimited continuum are indifferent to inter-temporal value delivery characteristics of gifts.

Discussion. These results replicate experiment 2, with lay theories experimentally manipulated rather than measured. The fact that we manipulated lay theories experimentally makes it possible to unambiguously attribute the different patterns of results to the different lay theories of self-control, hence strongly supporting our basic proposition. Again, only limited-malleable theorists chose gifts that deliver greater value in the long- versus short-term, and were

more likely to believe that one needs to put in constant effort to improve children's self-control, and that what parents choose and do can influence children's learning of self-control. Both the beliefs and the choices were consistent with the inclination to teach children self-control. In contrast, the other three types of theorists neither showed a tendency to choose gifts that deliver long-term value nor rated agreement towards the two statements concerning the training of children's self control (although unlimited-malleable theorists did tend to believe, consistent with their 'malleable' world-view, that self-control can be developed through effort, they were not so sure that children need to learn self-control by observing adults' choices).

EXPERIMENT 4: MANIPULATED LAY THEORIES AND SELF-REPORTED SELF-CONTROL

The experiments reported above consistently demonstrate that limited-malleable theorists are more likely than unlimited-malleable theorists to choose relative virtues for children, while limited-fixed and unlimited-fixed theorists do not exhibit different preferences towards virtues or vices. While it is evident that adults' lay theories of self-control influence their decisions, it remains unclear whether adults' own self-control also plays a role. To illustrate the possible influence of adults' own self-control, consider the following scenario: you want a 5-year-old child to read some beginners' books with you, but she would rather watch cartoons. Your decision can be framed in terms of two conflicting options: deny the request thereby possibly guiding her in the exertion of self-control, or be permissive and allow indulgence. Denial can have long-term benefits but it comes with short-term costs such as tantrums, coping with which can be effortful. On the other hand, being permissive may be appealing in the short run because it is simply easier, but may be detrimental to the child in the long run. If decision situations are

interpreted in this manner, the adult decision-maker faces what is essentially his/her own self-control dilemma (Ainslie 1975). Accordingly, the adult's own actual self-control should influence their decision. This consideration does not pose an alternative explanation for the findings reported so far, because own self-control (as well as other individual differences) was controlled for in experiment 3 where lay theories were manipulated. Nevertheless, self-control might also influence parents' decisions, and hence it is important to account for its effect. In experiment 4, we aimed to manipulate lay theories and measure self-reported self-control, to demonstrate that lay theories of self-control are distinct from actual self-control and, more importantly, lay theories of self-control have effects that are independent of self-control.

Method

Participants and procedure. One hundred and ten students at a major Midwestern university participated in return for course credit. Participants first responded to a set of personality questions which included Puri's (1996) Consumer Impulsivity Scale. Following a half hour filler, the stimuli for this study were presented as in experiment 4. Participants worked through the questionnaires at their own pace, and were debriefed and thanked when they finished.

Stimuli and design. Exactly as in experiment 3, lay theories were manipulated in a 2 (Limited/Unlimited) x 2 (Fixed/Malleable) between subjects design using the same "Reading Comprehension Task". Immediately afterwards, participants were presented a scenario titled "Research Study on Social Interaction". They were asked to "Imagine that you are baby-sitting a 5 year old child. This child is very close to you, and you really love the child a lot. The child's parents have left you with some beginners' reading books for him/her, as well as a couple of books which they would like you to read to him/her. However, the kid says s/he wants to watch

cartoons on TV first. Would you let the kid watch TV?" Responses were elicited on a scale anchored at 1 = Very Unlikely and 7 = Very Likely.

Results and Discussion

Hypothesis testing. The seven items of the Impulsivity subscale of the Consumer Impulsivity Scale were averaged to form a measure of self-reported self-control ability ($\alpha = .85$). A 2 (Limited vs. Unlimited) x 2 (Fixed vs. Malleable) ANCOVA conducted on the measure of permission to watch cartoons, controlling for impulsivity, revealed a marginal effect of the limited-unlimited lay theory ($F(1, 105) = 3.03, p < .09$), and a weak directional effect of impulsivity such that respondents who were more impulsive were more likely to allow the child to watch TV ($B = .22, t(105) = 1.36, p < .18$). Critically, in strong support of our theory, there was a significant interaction between the two lay theories ($F(1, 105) = 4.17, p < .05$) such that limited-malleable theorists were significantly less likely to allow the child to watch TV than were unlimited-malleable theorists ($M_s = 2.99$ vs. $4.22, F(1, 105) = 7.15, p < .01$). There was no difference between limited-fixed and unlimited-fixed theorists ($M_s = 3.73$ vs. $3.63, F < 1, ns$).

Discussion. This result demonstrates that lay theories of self-control have the predicted causal effect on people's choices for children even when own self-control is accounted for, and that own self-control itself has only a weak effect. In light of a possible carryover effect of the lay theory manipulation on responses to the self-control items, we conducted a follow-up study in which 72 students at a major Singapore university responded first to the scenario and the lay theories measures used previously, and then, two weeks later, to the impulsivity scale. Neither limited/unlimited nor fixed/malleable theory was correlated with impulsivity ($r = .05, p > .50$ in both cases), further evidence that lay theories are distinct from own self-control. A 2 (Limited vs.

Unlimited) x 2 (Fixed vs. Malleable) ANCOVA conducted on the permission to watch TV, controlling for impulsivity, again revealed a significant interaction ($F(1, 67) = 5.63, p < .05$), such that limited-malleable theorists were less likely to allow the child to watch TV than were unlimited-malleable theorists ($M_s = 3.25$ vs. $4.59, F(1, 67) = 7.23, p < .01$), and there was no difference between limited-fixed and unlimited-fixed theorists ($M_s = 4.04$ vs. $3.63, F < 1, ns$). Impulsivity had a stronger effect here, with impulsive respondents being more likely to allow the child to watch TV ($B = .50, t(67) = 2.59, p < .05$). As before, these results converge on the conclusion that lay theories of self-control have effects on choices that are independent of self-reported self-control.

GENERAL DISCUSSION

Across studies, the observed results demonstrate that the lay theories of self-control that people hold can exert their influence in several ways. In experiment 1, we found that lay theories of self-control influence parents' choices of food products, eating behaviors and television programs, when considerations of long- versus short-term value are involved. Experiments 2-3 then found that adults who do not have children of their own also behave similarly, as lay theories of self-control influence people's tendencies to gift products that encourage delayed gratification. These data indicate that it is lay theories of self-control in general, and not other immediately apparent beliefs stemming from parenthood, that are responsible for the results we observe. Moreover, experiment 3 revealed systematic differences in beliefs regarding the effects of adults' actions on children's self-control, and the feasibility of developing the latter. Finally, experiment 4 ruled out the possibility that the results were driven simply by differences in self-

control between limited-malleable theorists versus others. The coherent patterns observed across experiments run in three countries (Hong Kong, the USA, and Singapore), across the domains of gift-giving, babysitting, television program preferences, and eating allowances, and in laboratory experiments with student participants as well as in the real world with real parents, provide strong support for our basic hypothesis.

Contributions and Future Research

The key contribution of this research is in bringing together the literatures on self-regulation, interpersonal processes, and parenting, in a context directly relevant to consumer research. Despite the ubiquity of marketing efforts to young children (Schor 2004), there is a dearth of research on the consumerization of this critical segment of the population (John 1999). This is important since there are significant differences in the ways that children of different ages respond to marketing stimuli (Moore and Lutz 2000; Peracchio 1992). As John (1999) puts it, “The vast majority of work done in this area has been conducted with adolescents. Virtually no studies exist with younger children on the topic of social and economic motives for consumption.” Our focus in this research was on the formative years, in line with her comment that “studies with younger children... would be useful in understanding the relationship between social and cognitive development and aspects of consumer socialization” (John 1999). As mentioned above, the study of any lasting effects of the choices made by parents and other adults—whether they endure, how they mature, and how they contribute to the development of the child’s own lay theories—are interesting questions which we leave for future research.

This research also contributes individually to each of the literatures mentioned above. Recent developments in consumer research indicate that lay theories of self-control can influence

goal-directed behavior (Mukhopadhyay and Johar 2005). Our results extend this work by showing that lay theories of self-control have an influence not only on goal-directed behaviors undertaken by and for the self (i.e., self-regulation), but also on behaviors projected onto others. Further, the finding that lay theories had the predicted effects while consumers' values did not have any effect is interesting: in and of itself and also since neither lay theory was correlated with self-control or values (observed correlations ranging from $-.07$ to $.17$). This is evidence that lay theories of self-control are important psychological variables in their own right, that are orthogonal to other constructs and have effects specific to themselves. A further exploration of the antecedents of lay theories and their patterns of inter-relationship with variables such as the list of values is an interesting question for future research. Further, much of the extant research on lay theories deals with inferences rather than behaviors, and there is scant research on interpersonal behavioral effects of lay theories. We contribute to this literature by finding evidence for these influences, and that they manifest themselves not in blatant ways, but along the same forms of subtle social interaction (John 1999) that parental influence on children is often seen to take. It would be useful to see whether parents' lay theories can be modified, either via mass media or through point-of-sale communications at retail outlets such as fast food restaurants, in ways that would benefit their children's consumption.

One of the key controversies in the literature on parenting concerns the directionality of the relationship between parenting efforts and self-regulation (Grolnick and Farkas 2002). One school of thought suggests that sparing the rod spoils the child, and parental actions and inactions determine child outcomes. However, it has also been observed that children who are generally well-behaved tend to evoke fewer actions of explicit controlling parenting. Our results show that the actions of parents and other adults may be driven purely by the implicit assumptions that the

adult holds, independent of any explicitly held motives. These implicit assumptions held by parents can be learned by children and hence transferred across generations (Dweck 1999). Characteristics observed at an early age can have lasting influences (Shoda, Mischel, and Peake 1990), and, as John (1999) puts it, the extent to which adolescents exhibit materialistic tendencies that may have been seeded at a younger age can depend on factors such as family and peer communication. Given our results and the significance of this topic for consumer socialization, future research should track children's preferences over time and across cohorts, helping map the extent and manner in which parents' lay theories are visited on their children.

In a related vein, we would like to emphasize that while our research shows that limited-malleable theorists tend to execute tighter control over children and choose virtues for them, we do not claim that the execution of control is always beneficial for children. Indeed, it is possible that limited-malleable theorists' well-meaning choices of virtues could have the ironic effect of lowering self-control. Several other researchers have discussed the effectiveness of various parenting strategies on aspects of development. For example, Lamborn et al. (1991) suggest that parents adopt an authoritative parenting style, setting standards for conduct and firmly enforcing them. The firm but not restrictive control gives children opportunities to learn to be responsible for their own behavior. Indeed, Deci et al. (1993) videotaped 6 and 7 year old children playing with toys (Lego and Lincoln Logs), and found that children with mothers who said things that were more "autonomy supportive" than "controlling" showed greater intrinsic motivation for the task. In addition to adopting an authoritative style, parents are also recommended to carry out specific practices that are consistent with this style (Darling and Steinberg 1993). For example, they should guide children to perform behaviors that require them to exercise self-control. After a few repetitions, they should encourage children to initiate these behaviors themselves so that

these behaviors can become well-learned and internalized (Grolnick, Deci, and Ryan 1997). In addition, parents are advised to teach coping skills such as how to shift children's attention in delay of gratification situations, and to help children to anticipate the consequences of their actions (Maccoby 1980).

Marketing Implications

Our results raise pertinent questions for marketers of products to children. Parents of five-year olds are gatekeepers for the children's decisions, and their preferences must be taken into account. Positioning products as relative virtues can help attract parents who are limited-malleable theorists, without necessarily turning away fixed theorists. This would be in line with socially desirable outcomes. For marketers of such virtue products, it may even be desirable to subtly (but not blatantly) cue limited-malleable lay theories in communications and point of purchase materials. However, as evidenced in experiment 2, children can naturally be attracted to products that deliver instant gratification. Therefore, explicitly positioning a product as a vice may be the most evident, and indeed, common, course of action. However, such preferences may be aligned with those of their caretakers' only if the latter are unlimited-malleable theorists. Hence, not only is the promotion of relative vices socially less desirable, it may, as our results indicate, alienate substantial proportions of the decision-making population. Drawing from our results and Wyer's (2004) observation that the effects of lay theories may be evidenced even when lay theories are situationally primed, it is important for marketers to consider the nature of the product they are offering, virtue or vice, whether parents placed in a purchase / consumption opportunity for this product do activate the goal of developing their child's self-control, and finally, how best the product might be positioned given the above two eventualities.



Journal of Marketing Research
Article Postprint, Volume XLVI
©2009, American Marketing Association
Cannot be reprinted without the express permission of the American Marketing Association

REFERENCES

- Ainslie, George W. (1975), "Specious Reward: A Behavioral Theory of Impulsiveness and Impulse Control," *Psychological Bulletin*, 82 (April), 463–96.
- Bargh, John A. (1997), "The Automaticity of Everyday Life," in *Advances in Social Cognition*, Vol. 10, Robert S. Wyer, Jr., ed., Mahwah, NJ: Erlbaum.
- Berkowitz, Marvin W. and John H. Grych (1998), "Fostering Goodness: Teaching Parents to Facilitate Children's Moral Development," *Journal of Moral Education*, 27(3), 371–91.
- Darling, Nancy and Laurence Steinberg (1993), "Parenting Style as Context: An Integrative Model," *Psychological Bulletin*, 113, 487–96.
- Deci, Edward L, Robert E. Driver, Lucinda Hotchkiss, Robert J. Robbins, and Ilona McDougal Wilson (1993), "The Relation of Mothers' Controlling Vocalizations to Children's Intrinsic Motivation," *Journal of Experimental Child Psychology*, 55 (2), 151–62.
- Descartes (1649/1996), "Les Passions de L'Ame," in *Oeuvres de Descartes*, Charles Adam and Paul Tannery, ed. Paris: Vrin/CNRS, 368–69.
- Dweck, Carol S. (1996), "Implicit Theories as Organizers of Goals and Behavior," in *The Psychology of Action: Linking Cognition and Motivation to Behavior*, Peter M. Gollwitzer and John A. Bargh, ed., New York: The Guildford Press.
- (1999), *Self Theories: Their Role in Motivation, Personality and Development*, Philadelphia: Taylor and Francis.
- and Ellen L. Leggett (1988), "A Social-Cognitive Approach to Motivation and Personality," *Psychological Review*, 95 (April), 256–73.
- Elster, Jon (1979), *Ulysses and the Sirens: Studies in Rationality and Irrationality*, New York,

NY: Cambridge University Press.

Gale Research Inc. (2002), *World Market Share Reporter*. Detroit, MI: Gale Group.

Grolnick, Wendy S., Edward L. Deci, and Richard M. Ryan (1997), "Internalization Within the Family: A Self-Determination Theory Perspective," in *Parenting and Children's Internalization of Values: A Handbook of Contemporary Theory*, Joan E. Grusec and Leon Kuczynski, eds. New York: Wiley: 135–61.

——— and Melanie Farkas (2002), "Parenting and the Development of Children's Self-Regulation," in *Handbook of Parenting Vol. 5: Practical Issues in Parenting*, Marc H. Bornstein, ed. Hillsdale, NJ: Erlbaum, 89–110.

John, Deborah R. (1999), "Consumer Socialization of Children: A Retrospective Look at Twenty Five Years of Research," *Journal of Consumer Research*, 26 (December), 183–213.

Kahle, Lynn R. (1983), *Social Values and Social Change: Adaptation to Life in America*. New York: Praeger.

Kaiser Family Foundation (1999), *Kids and Media @ the Millennium*, Menlo Park, CA: Kaiser Family Foundation.

Lamborn, Susie D., Nina S. Mounts, Laurence Steinberg, and Sanford M. Dornbusch (1991), "Patterns of Competence and Adjustment among Adolescents from Authoritative, Authoritarian, Indulgent, and Neglectful Families," *Child Development*, 62, 1049–1065.

Maccoby, Eleanor E. (1980), *Social Development: Psychological Growth and the Parent-Child Relationship*. New York: Harcourt Brace Jovanovich.

Metcalfe, Janet and Walter Mischel (1999), "A Hot/Cool-System Analysis of Delay of Gratification: Dynamics of Willpower," *Psychological Review*, 106 (January), 3–19.

Mischel, Walter, Ozlem Ayduk, and Rodolfo Mendoza-Denton (2003), "Sustaining Delay of

- Gratification over Time: A Hot/cool Systems Perspective,” in *Time and Decision: Economic and Psychological Perspectives on Intertemporal Choice*, George Loewenstein, Daniel Read, and Roy Baumeister, eds. New York: Russell Sage, 175–200.
- Moore, Elizabeth S. and Richard J. Lutz (2000), “Children, Advertising, and Product Experiences: A Multimethod Inquiry,” *Journal of Consumer Research*, 27 (June), 31–48.
- Mukhopadhyay, Anirban and Gita V. Johar (2005), “Where There Is a Will, Is There a Way? Effects of Lay Theories of Self-Control on Setting and Keeping Resolutions,” *Journal of Consumer Research*, 31 (March), 779–86.
- Munoz, Kathryn A., Susan M. Krebs-Smith, Rachel Ballard-Barbash, and Linda E. Cleveland (1997), “Food Intakes of U.S. Children and Adolescents Compared to Recommendations,” *Pediatrics*, 100 (September), 323–29.
- Muraven, Mark and Roy F. Baumeister (2000), “Self-Regulation of Limited Resources: Does Self-Control Resemble a Muscle?” *Psychological Bulletin*, 126 (March), 247–59.
- Novemsky, Nathan and Rebecca K. Ratner (2003), “The Time Course and Impact of Consumers’ Erroneous Beliefs about Hedonic Contrast Effects,” *Journal of Consumer Research*, 29 (March), 507–516.
- Peracchio, Laura A. (1992), “How Do Young Children Learn to be Consumers? A Script-Processing Approach,” *Journal of Consumer Research*, 18 (March), 425–40.
- Ross, Lee and Richard E. Nisbett (1991), *The Person and the Situation: Perspectives of Social Psychology*. New York: McGraw-Hill.
- Schor, Juliet B. (2004), *Born to Buy: The Commercialized Child and the New Consumer Culture*. New York: Scribner.
- Shoda, Yuichi, Walter Mischel, and Philip K. Peake (1990), “Predicting Adolescent Cognitive

and Social Competence from Preschool Delay of Gratification: Identifying Diagnostic Conditions,” *Developmental Psychology*, 26, 978–86.

Wertenbroch, Klaus (1998), “Consumption Self-control by Rationing Purchase Quantities of Virtue and Vice,” *Marketing Science*, 17 (4), 317–37.

Wyer, Robert S., Jr. (2004), *Social Comprehension and Judgment: The Role of Situation Models, Narratives and Implicit Theories*. Mahwah, NJ: Erlbaum.

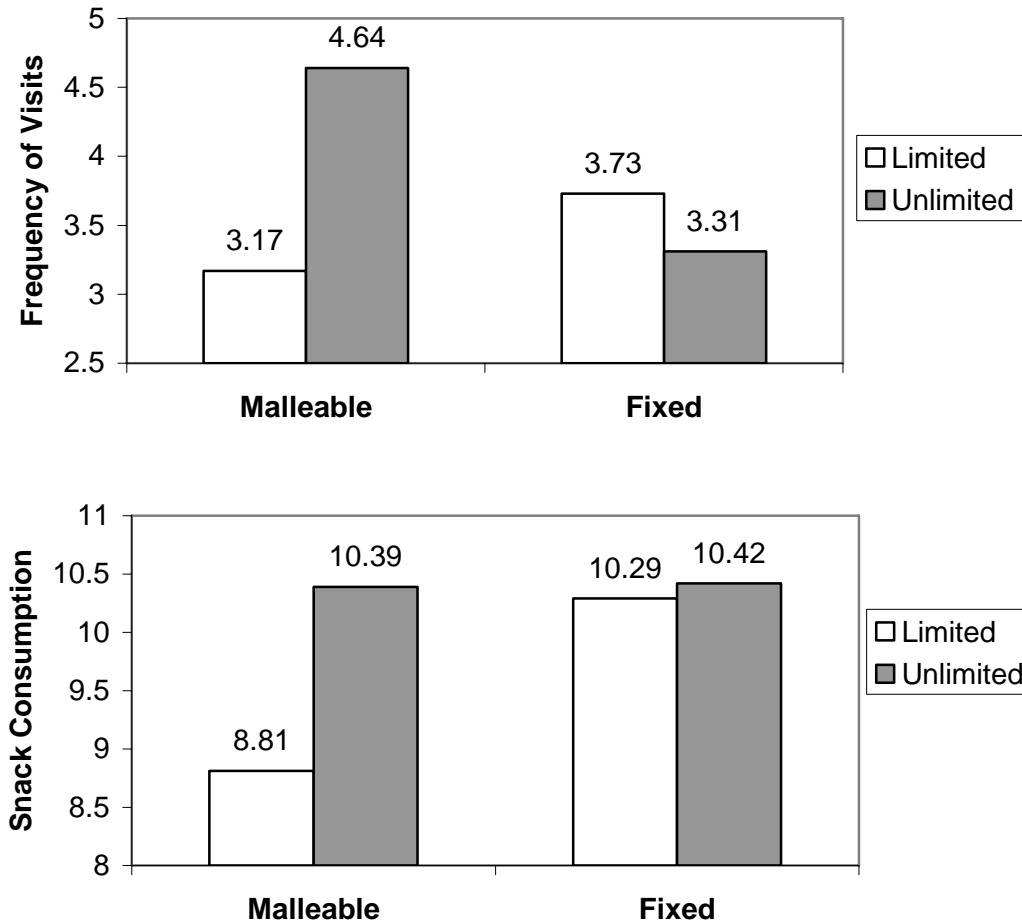
Xu, Jing and Norbert Schwarz (2009), “Do We Really Need a Reason to Indulge?” *Journal of Marketing Research*, forthcoming.

FOOTNOTES

1. The questionnaire was administered in English in Singapore and translated into Chinese for use in Hong Kong. Location was found to have no effect on the observed patterns and will not be discussed henceforth.
2. Similar patterns were obtained when the continuous lay theory measures were used in multiple regression analyses. They are not reported here for purposes of brevity. Further, there were significant correlations amongst the measured demographic variables, and hence all were not entered simultaneously. Instead, we ran separate analyses using subsets of these measures, and report the analysis yielding the most significant covariates here. Patterns on the lay theories measures were unaffected by the choice of covariate.

FIGURE 1

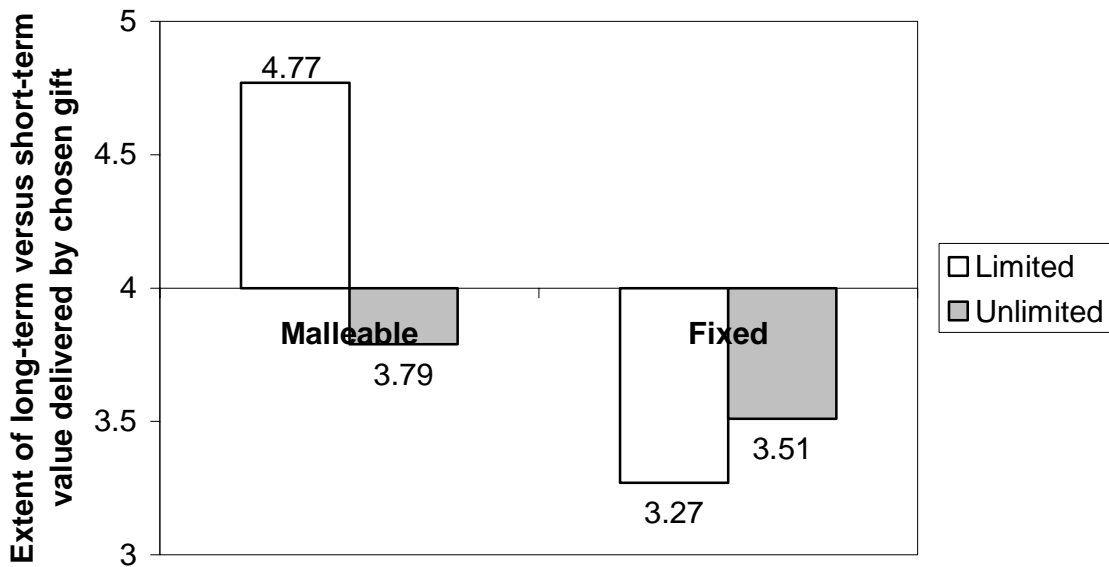
EXPERIMENT 1: MONTHLY FREQUENCY OF VISITS TO FAST FOOD RESTAURANTS
 AND WEEKLY CONSUMPTION OF UNHEALTHY SNACKS
 AS A FUNCTION OF LAY THEORIES OF SELF-CONTROL



Note. A lower frequency of visit to fast food restaurants and a lower level of unhealthy snack consumption are indicative of greater control over children’s consumption of unhealthy food. Limited-malleable theorists reported that their children visited fast food restaurants less frequently and consumed fewer unhealthy snacks than did unlimited-malleable theorists. There was no difference between limited-fixed and unlimited-fixed theorists.

FIGURE 2

EXPERIMENT 2: EXTENT OF LONG-TERM VERSUS SHORT TERM VALUE
 DELIVERED BY CHOSEN GIFT



Note. Means greater than 4.00 represent greater long-term (versus short-term) value, i.e., a preference for virtues. Limited-malleable theorists showed a stronger preference for virtues than did unlimited-malleable theorists. Limited-fixed and unlimited-fixed theorists did not differ in the degree to which they prefer virtues or vices for children.