

# How Do Social Norms Influence Parents' Food Choices for Their Children? The Role of Social Comparison and Implicit Self-Theories

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## Abstract

Despite the proliferation of healthier side items for children at fast food restaurants, many parents still do not make healthy choices for their children in this setting. The goal of this research is to identify the parents most likely to do so and develop an intervention to nudge these parents toward making healthier choices in retail outlets. Across four field studies conducted in a retail environment (i.e., locations of a fast food restaurant chain), the authors predict and find that parents with a high tendency to engage in social comparison and a malleable view of the self are most likely to conform to the norm in their parental social network. Given that the norm in the population studied is to order a less healthy side item (e.g., fries) versus a healthy side item (e.g., fruit), conforming results in significantly less healthy orders for the children of these individuals. The authors demonstrate that a social norm-based intervention designed to set a new healthy norm in this retail environment succeeded in increasing the overall proportion of parents that chose a healthy side item by over 29% by increasing the choice of healthy sides specifically for these individuals. The authors conclude with a discussion of implications for theory, retail managers, and policy makers.

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When parents choose to take their children to fast food restaurants, in many cases they now have the option to choose healthier side items than the traditional French fries and soda that accompanied children's meals in years past (Moran et al., 2017). For example, a parent ordering a children's meal for a child at Burger King can choose fruit (e.g., apple slices) or vegetables (e.g., carrots) instead of French fries, along with milk or juice instead of soda. Fast food restaurants are retail outlets that have made these menu changes as a strategic choice, recognizing the importance of creating a positive customer experience (Grewal, Levy, & Kumar, 2009). Providing healthy options for children allows the retailer to enhance the customer experience by communicating shared values with parents (Grewal et al., 2017) who, at least ostensibly, want the option to buy healthy food for their children. However, despite the availability of healthier options,

not all parents will choose them for their children (Moran et al., 2017).

In this research, we employ a series of field studies to explore what factors influence parents' choice of healthy versus less healthy side items for their children at fast food restaurants and test an intervention to increase choice of healthy side items among parents unlikely to choose these items. This approach is consistent with past research showing that choice of side items at fast food restaurants influences overall healthiness of the meal (Chandon & Wansink, 2007). In doing so, we investigate two individual difference variables that have hitherto been studied independently – *parents' tendency toward social comparison* (i.e., the extent to which one compares oneself to others; Gibbons & Buunk, 1999) and *parents' lay theory of the self* (i.e., whether the self, and hence one's preferences, are seen as malleable or fixed; Dweck, Chiu, & Hong, 1995; Molden & Dweck, 2006). We predict and find that, in four field studies with consumers actually dining at fast food restaurants with their children, parents with a high tendency to compare themselves to others and a malleable view of the self are most likely to conform to the perceived norm in their parental social network.

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The norm at the fast food chain in the region where our field studies were conducted is to order less healthy side items (e.g., fries) versus healthy side items (e.g., fruit), with 58.4% of participants in a pilot study ordering at least one less healthy side item for their child (either a beverage or drink). This result suggests that while consumers may value the availability of healthy options, ordering them may not be the norm, underscoring the importance of testing our hypotheses in the field in retail locations with real food orders. Doing so limits the potential for socially desirable responding (i.e., participants claiming to make healthier orders than they actually make). We then test a social norm based intervention designed to set a new healthy norm that successfully nudges the parents most likely to conform to the less healthy norm toward ordering healthier food for their children. To our knowledge, we are the first to propose and test such an intervention to affect parental choice for children at real fast food restaurants.

Our research makes several novel theoretical contributions. Our research is the first to explore the interactive effect of consumers' theories of the self with their social comparison orientation on food choice. As such, our research contributes to the literature exploring how lay theories shape food decision making (e.g., Haws, Reczek, & Sample, 2017; McFerran & Mukhopadhyay, 2013; Raghunathan, Naylor, & Hoyer, 2006) and the literature on the impact of social influence on food decisions (e.g., Cruwys, Bevelander, & Hermans, 2015; McFerran et al., 2010a; McFerran et al., 2010b; Vartanian, 2015). Second, we demonstrate that social-norm based interventions are most impactful for individuals with a high tendency to compare themselves to others and a malleable view of the self, adding to the literature documenting moderators of the effectiveness of social norm based marketing (Goldstein, Cialdini, & Griskevicius, 2008; White & Simpson, 2013). Our work also contributes to the literature on parental food choice for children and factors that influence children's attitudes toward and consumption of less healthy food (e.g., Connell, Brucks, & Nielsen, 2014; Moore, Wilkie, & Desrochers, 2017; Mukhopadhyay & Yeung, 2010; Raju, Rajagopal, & Gilbride, 2010) by exploring real fast food dining choices in the field.

Conceptually, our work adds to the retailing literature by exploring how consumers make choices for others in a retail environment. There is relatively little research in marketing exploring this issue, but it is a very common occurrence in the lives of consumers. In a conceptual piece characterizing the choices consumers make for others, Liu, Dallas, and Fitzsimons (2019) propose that such choices fall into one of four cells: gift giving, every-day pickups/favors, joint consumption, and care giving. Previous research in the retailing literature has explored both gift giving (e.g., Bradford & Sherry, 2013) and joint consumption, where consumers choose a product or hedonic activity to consume together (e.g., Wakefield & Inman, 2003). Considerably less work, however, has explored every-day pickups (e.g., one spouse picks up a product for the other) or care giving, where a consumer makes a choice as part of their care giving responsibilities (e.g., for a child or an elderly adult).

We focus specifically on parents' care-giving choices for children. Previous research exploring this type of care-giving

has shown that parents generally want to make good choices for children because they feel responsible for them (John & Cole, 1986). However, past work has also shown that individual differences can influence how parents respond to promotional messages for care-giving product choices (e.g., certainty in one's parental identity in Bhattacharjee, Berger, & Menon, 2014). We contribute to this literature by identifying two new individual difference variables beyond certainty in one's parental identity that affect parental care giving decisions in a retail environment.

Finally, our work has important practical implications for retail marketing managers and policy makers. We demonstrate the effectiveness of a social norm based intervention to encourage consumers to make healthier choices for their children when actually dining in fast food restaurants. This type of intervention is relatively novel in the restaurant context, as significantly more research attention has been focused on the effect of the provision of calorie information on menus (Berry, Burton, & Howlett, 2018; Burton, Howlett, & Tangari, 2009). Although calorie labeling can lead to improvements in healthy choices for some consumers, in a recent study, only 8% of fast food restaurant consumers actually used calorie information to inform their choices (Beck et al., 2017). This finding suggests that retail fast food managers need additional tools in their arsenal if they want to help consumers make better choices. We therefore close with a discussion of how managers of fast food restaurants can best implement social norm based interventions to influence parents to make healthier choices for their children. Doing so has the potential to not only allow managers of fast food restaurants to partner with customers in making healthy choices, potentially generating positive public relations and attracting new customers, but also to increase customer satisfaction and repurchase intentions.

## Theoretical foundation

### *Social Influence on Food Consumption*

In a comprehensive review, Herman, Roth, and Polivy (2003) examined the effects of social facilitation, social modeling, and impression management on the amount of food an individual consumes in a social setting. They conclude their review by summarizing that social influences on food consumption are both "powerful and ubiquitous" and can increase eating (social facilitation) or decrease eating (impression management). Other work has shown that social influence can also affect what consumers choose to eat, not just the amount (Cruwys et al., 2015; Vartanian, 2015). In the consumer behavior domain, researchers have explored the influence of others who are physically present in the retail consumption environment on food choices (e.g., other customers or one's server in a restaurant; McFerran et al., 2010a; McFerran et al., 2010b) and the influence of mere images of others (Poor, Duhachek, & Krishnan, 2013). More broadly, social influence can be both powerful and pervasive in the retail context, as even the mere presence of other shoppers in an aisle influence consumers' choices (Argo, Dahl, & Manchanda, 2005).

In this research, we predict that the perceived behavior of other parents in a parent's social network can influence their restaurant food choices for their own children, whether this behavior is observed at the time of ordering or learned through word-of-mouth or other sources. This prediction is consistent with both past research (1) documenting the social influence of others in a retail context (e.g., Mangleburg, Doney, & Bristol, 2004; Zhang et al., 2014) and (2) suggesting that other parents in a parent's social network influence parental attitudes and behavior (Cochran & Niego, 2002). For instance, parental networks affect parents' decisions to vaccinate their children (Brunson, 2013) and parents' involvement with children's school activities (Smrekar, 1993). However, no past work in marketing has explored the influence of parents' social networks on choice of food options for their children in a retail context.

The extant research on the influence of parents' social networks is broadly consistent with research on Social Comparison Theory (Festinger, 1954). This theory states that when consumers engage in social comparison (i.e., comparing their own behavior to a relevant standard), they tend to assimilate (i.e., match) their behavior to that of the standard (in this case, the behavior of other parents in their social network) when they feel psychologically close to the standard (Mussweiler, Rüter, & Eptstude, 2004).

In the context we explore, we propose that parents in an individual parent's social network (i.e., friends and colleagues who are parents, other parents living in the same region, etc.) are likely to be perceived as psychologically close, which should result in assimilation and conforming to the perceived norm, resulting in mimicking of other parents' food choices even in this relatively loose network. However, past research suggests that not all parents will be equally influenced by their beliefs about what other parents choose for their children. Thus, while ample research has documented the influence of others on food choice, based on past literature on individual differences in the tendency to compare one's behavior to that of socially relevant others, we further predict that the extent of a given parent's conformity to the perceived social norm for children's food choices is moderated by that parent's tendency to engage in social comparison.

Although social comparisons tend to be both spontaneous and effortless (Gilbert, Brian Giesler, & Morris, 1995), researchers have long argued that, while virtually everyone engages in social comparison, the extent to which people do so varies (Gibbons & Buunk, 1999). Past research has shown that the tendency to engage in social comparison can be measured as an individual difference in social comparison orientation (Iowa-Netherlands Comparison Orientation; Gibbons & Buunk, 1999), such that individuals with a high social comparison orientation have a high tendency to compare their own actions and attitudes with socially relevant others while those with a low social comparison orientation have a low tendency to do so. For parents to conform to the behavior of other parents in their social network with respect to choosing food for their children, they must first engage in social comparison. That is, they must be focused enough on others' behavior to notice the standard set by other

parents' behavior. An individual's social comparison orientation influences whether this comparison occurs, such that:

**H1:** Parents with a high social comparison orientation are more likely to conform to the food choices of other parents in their social networks for their own children compared to parents with a low social comparison orientation.

### *The Role of Implicit Theories of the Self as Fixed or Malleable*

A parent's social comparison orientation is not the only factor that will influence whether they conform to what they perceive to be the norm in their parental social network for ordering children's fast food side items. We predict that an individual's theory of the self also determines their susceptibility to the perceived standard of comparison set by their parental network, specifically whether they see the self as an unvarying entity that is impossible to change or as more malleable and able to change. A substantial body of research over the last three decades has shown that individuals hold one of these two implicit theories (also called lay theories or mindsets) about the self (Dweck, 1999; Dweck & Leggett, 1988; Dweck et al., 1995; Molden & Dweck, 2006). Fixed or entity theorists believe that a person's personality and other traits such as intelligence and morality are fixed and that one cannot change these traits. Malleable or incremental theorists, on the other hand, believe that personality and other traits are malleable, such that the self can change over time (Molden & Dweck, 2006).

In the consumer behavior domain, having a fixed or malleable view of the self has been shown to affect how consumers process and respond to different advertising message frames (Jain, Mathur, & Maheswaran, 2009; Park & John, 2012), their acceptance of brand extensions (Yorkston, Nunes, & Matta, 2010), and their use of brands to signal positive self-qualities (Park & John, 2010). Most relevant to the current work, Mukhopadhyay and Yeung (2010) examined implicit theories of self-control and found that consumers who believed that self-control is a limited resource that can change over time were more likely to make choices that benefited children's self-control. On the other hand, consumers who believed that self-control was an unlimited resource or that it cannot change over time (i.e., fixed self-control theorists) were less likely to exhibit such behaviors. To our knowledge, this is the only extant research that explicitly explores the role that implicit theories of any aspect of the self-play in parental choices for children. While Mukhopadhyay and Yeung (2010) explored beliefs about a specific aspect of the self being fixed or malleable (i.e., self-control), we take a different theoretical approach from this past work by investigating the effect of consumers' implicit theories about the fixedness or malleability of the self as a whole (vs. a specific attribute) and build theory on how these beliefs interact with social comparison orientation to affect parental food choice for children.

At the core of our examination of consumers' implicit theories of fixedness or malleability of personality is the difference between fixed and malleable theorists when making a decision or choosing between options. The consistent finding across mul-

multiple studies exploring implicit views of the self is that those with a fixed view of the self are less sensitive to the effect of contextual or situational factors, whereas those with a malleable view of the self are more sensitive to the context or situation (e.g., Jain et al., 2009; Mathur et al., 2012; Park & John, 2012; Yorkston et al., 2010). The rich body of research on implicit theories therefore suggests that fixed theorists, irrespective of the context they find themselves in, seek option(s) that fit their personality traits (Molden & Dweck, 2006). Thus, their preferences are relatively stable, as they believe their preferences, like their personality, are fixed. Malleable theorists, in contrast, ask themselves what kind of a situation they are in and which option(s) seem appropriate in that context, adjusting their preferences as needed because they believe their preferences are malleable (Molden & Dweck, 2006).

It is precisely because these differences in beliefs about the self result in a differential sensitivity to context that we expect self-theories to interact with social comparison orientation. Information about what others do is part of the context to which malleable self-theorists are particularly sensitive, but it is a very specific part of the context focused on the behavior of others (vs. other types of contextual information like time of day, temperature, etc.). Thus, only malleable theorists who are particularly attuned to information about others (i.e., those with a high social comparison orientation) are likely to be affected in a retail fast food context by what foods they believe others in their parental social network are ordering for their children. We note that we do not expect a main effect of self-theory on tendency to comply with social norms in this context because the social norm is not necessarily readily apparent nor is it universally considered relevant contextual information for fast food side dish decisions. Thus, while malleable theorists are, in general, more influenced by contextual information, only those with high social comparison orientation are likely to think about or pay attention to what other parents do when making a food decision for their children.

Taken together, our theorizing about these two constructs leads us to predict that parents' implicit beliefs about the self will interact with their social comparison orientation to influence their food choice for their children. We expect malleable theorists with a high social comparison orientation to be most likely to conform to the perceived behavior of other parents in their social network because these individuals are likely to attend to contextual information about what other parents are doing (due to their high social comparison orientation) and likely to be influenced by this information (due to their malleable theory of the self, which makes them more likely to adjust their own attitudes, preferences, and behavior to match relevant contextual information).

Thus, this group of parents' behavior will differ from that of the other three groups that emerge when combining these two constructs: malleable theorists with a low social comparison orientation, fixed theorists with a high social comparison orientation, and fixed theorists with a low social comparison orientation. Malleable theorists with a low social comparison orientation will be less affected by the behavior of other parents than malleable theorists with a high social comparison orienta-

tion because these parents are less likely to engage in the social comparison required to note what the norm is in this context, although their malleable theory of the self would allow them to adjust to this norm if it became focal. Fixed theorists, regardless of whether they are high or low in social comparison orientation, are unlikely to be affected by the norm because they are less likely to adjust their own preferences/attitudes to fit a particular context. Thus, regardless of social comparison orientation, fixed theorists are less likely to conform to the choices of other parents in their social network. We therefore predict (as shown in the conceptual model presented in Fig. 1):

**H2:** Social comparison orientation and self-theories interact to influence the extent to which parents conform to the food choices of other parents in their social networks. Parents with a high social comparison orientation and a malleable theory of the self will conform to a greater extent than any other parental group.

### *Pilot Studies: Characterizing the Norm and Perceptions of Healthiness of Side Items*

Prior to testing our hypotheses, we conducted two pilot studies to (1) characterize the norm among the social network of parents we study (i.e., is the norm to order healthy or less healthy beverage and food side items for children at fast food restaurants) and (2) identify which side items at the fast food restaurant where we conducted our main studies were perceived by parents as healthy versus less healthy. The two pilot studies and all main studies were conducted on-site at locations of a fast food chain in mid-sized rural cities in a Western democratic country. The setting of our studies – parents in a specific geographic region who visited this fast food restaurant with their children – suggest that parents will feel psychological closeness with other parents in their social network of friends, family, and colleagues that live in this region.

In the first pilot study, trained research assistants asked parents who visited a fast food restaurant while accompanied by at least one child who appeared to be between two and eleven years old to evaluate how healthy the listed “side items” were that came with a children's meal (i.e., both beverage and food side items, as each meal came with a choice of a beverage and a food side). This helped us categorize the listed side items into two groups, “perceived as healthy” or “perceived as less healthy.” We conducted this study at two of the four restaurants that were used as locations for all subsequent studies. Parents participated in this study in return for a free side item voucher redeemable for the child at the chain. The age restriction for children accompanying their parents to the fast food restaurant was chosen before conducting the study since children in this age group (i.e., ages 2–11) have moderate purchase and negotiation influence (John, 1999) and are the typical targets of advertising for children's meals at fast food restaurants (Harris et al., 2013). Recognizing that the research assistants would not always be accurate in assessing age, we asked parents to provide (in the questionnaire) the exact age of the child that they planned to redeem the voucher for in order to make sure that only respondents that



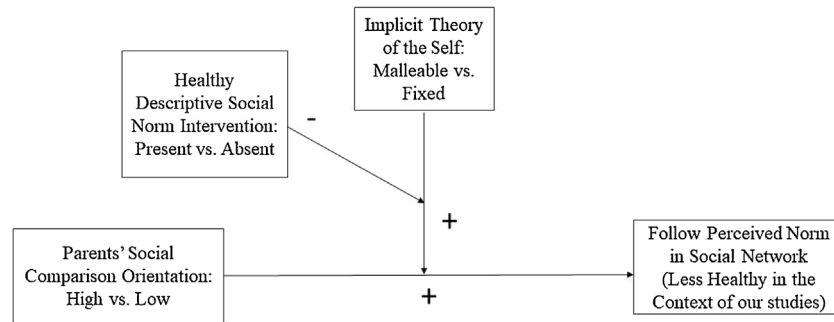


Fig. 1. Conceptual Model: Social Comparison Orientation and Implicit Theory of the Self Interact to Influence Susceptibility to Norm of Choosing Less Healthy Side Items for Children in a Fast Food Restaurant.

actually had children in this age range with them were included in the analysis.<sup>1</sup> We also asked participants to participate only if they were a parent of the accompanying child.

Seventy-one parents agreed to participate in the study, but seventeen respondents were excluded because the accompanying children were either older than eleven or younger than two. The remaining 54 study respondents (74.1% female,  $M_{\text{age(Parents)}} = 34$  ( $SD = 5.85$ ),  $M_{\text{age(Children)}} = 5.80$  ( $SD = 2.44$ ) evaluated each of the listed side items for a children's meal on a 7-point Likert scale (1 = not healthy, 7 = healthy). Though main entrées were typical fast food items, the side items (i.e., beverages and food side items) differed in how healthy they were perceived to be.<sup>2</sup> We conducted a factor analysis on ratings of healthiness of the side items, constraining the number of factors to two. These two factors explained 57% of the variance.<sup>3</sup> Five items loaded on the first factor, which represented relatively less healthy side items and included fries ( $M_{\text{healthiness}} = 2.21$ ;  $\alpha = .88$ ), and seven items, including fruit, loaded on the second factor, which represented relatively healthy side items ( $M_{\text{healthiness}} = 5.65$ ;  $\alpha = .73$ ). The mean ratings of healthiness for these two groups of side items were significantly different ( $t(53) = 22.73$ ,  $p < .01$ ). We used this categorization of side items in the second pilot study, which examined customer transaction data, and in the main studies where we measured choice.

In our second pilot study, we analyzed historical customer transaction data at four restaurant locations of the same fast food chain in the same region in which the first pilot study was conducted. The data was from a randomly chosen sample of over 7400 cashier transactions of children's meals purchased in

a three-month period. We found that 41.6% of the ordered children's meals included at least one side item perceived as healthy, such as fruit, while 58.4% of the ordered children's meals included no side item perceived as healthy ( $t(7399) = 14.66$ ,  $p < .01$ ).<sup>4</sup> This baseline data characterizes the norm within this parental social network as ordering less healthy side items for children. This data is consistent with a recent large-scale survey of U.S. parents ( $n = 871$ ) indicating that, of the 91% who had taken their children to eat at least one meal at one of the four major U.S. fast food chains in the last week (i.e., McDonald's, Burger King, Wendy's and Subway), only 26% reported buying meals with only healthy food for their children (Scher, 2018). Importantly, in the same survey, parents indicated that the availability of healthy options at these chains was a factor in selecting a restaurant to visit, pointing to a potential disconnect between what parents value and what parents do.<sup>5</sup> The prevalence of the norm is perhaps unsurprising when one considers that soda and fries are likely viewed as prototypical accompaniments to an entrée in a fast food context. Having established the norm in this specific retail context, we now report a series of field studies designed to test our hypotheses.

## Study 1

Study 1 was a field study conducted with real diners at a fast food restaurant dining with at least one child. We used a combination of a survey and cash register receipts to measure parents' social comparison orientation and record real purchases parents made for their children.

## Method

This study was conducted at two locations of a fast food restaurant located in two different cities with comparable demographics and socioeconomic conditions. Research assistants in

<sup>1</sup> All adults with children who looked to be the appropriate age (and who themselves looked the appropriate age to be parents versus grandparents) who entered the restaurant while the study was being conducted were approached and asked to participate before making a purchase. Each study was run on a variety of days (weekend and weekday) and at different times of day controlling for differences in order patterns caused by day of week or time of day.

<sup>2</sup> Details about the side items (i.e., beverages and food side items) are not included to respect data protection policies.

<sup>3</sup> We also ran a factor analysis without constraining number of factors. This analysis reveals three factors with eigenvalues greater than one and explains more than 66.2% of the variance. The three-factor solution reveals one factor representing healthy side items, one factor representing less healthy side items, and one factor with mixed loadings representing two common combinations, which are fries or fruit with water. Because of this outcome, we chose to retain the two-factor analysis in our primary reporting.

<sup>4</sup> We note that at least one healthy side item chosen could mean either the beverage or the food side item selected was healthy. No healthy side item chosen means both the beverage and the food side item selected were less healthy. We used this coding throughout all of our studies.

<sup>5</sup> Such value-behavior inconsistencies are not uncommon in the consumer behavior literature (where, for example, research has shown that consumers may report valuing sustainability but may not actually make sustainable purchases; Prothero et al., 2011).

each location and blind to the hypothesis and study objectives, were instructed, following the same guidelines outlined in the first pilot study, to ask customers who appeared to be parents accompanied by at least one child between the ages of two and eleven, to participate in a survey about parents' opinions. In return for their participation, respondents were offered a voucher for a free children's meal (which included an entrée and two sides, a food side item and a beverage). We asked parents to provide the exact age of the child that they planned to redeem the children's meal voucher for in order to make sure that only respondents that actually had children in this age range with them were included in the analysis. We also asked participants to answer the questionnaire only if they were a parent of the accompanying child.

All participants first completed a questionnaire with items that assessed their social comparison orientation and their demographic information. We pretested the two main scales used in our studies – the social comparison orientation scale (Gibbons & Buunk, 1999) and the implicit theories of personality scale (Levy, Stroessner, & Dweck, 1998) to arrive at reduced forms of the scales to use in the field. Results of this pretesting are presented in Appendix.<sup>6</sup> Basic statistics ( $\alpha$ ,  $M$ , and  $SD$ ) for the scales and measures used in the four main studies are also reported in Appendix.

Ninety-six parents participated in this study. Data from seven respondents were excluded as the accompanying children were older than eleven or younger than two, leaving us with a final sample of 89 parents (69.6% female,  $M_{\text{age(Parents)}} = 37.36$  ( $SD = 6.1$ )  $M_{\text{age(Children)}} = 5.9$  ( $SD = 2.46$ )). Parents who agreed to participate in the study were given a voucher for a children's meal that was only valid for redemption on the day of the study that was included as the last page of the questionnaire. The researcher asked consumers to complete the questionnaire and deposit it in a box on a table in one corner of the restaurant. Respondents were instructed to hand the voucher to the cashier to get the free children's meal. The cashier, blind to the hypothesis, stapled the receipt for the transaction to the voucher. The voucher and associated questionnaire shared a unique identifier code allowing us to match the questionnaire with the choices made by parents when redeeming the children's meal voucher. In this and all other studies, whether the beverage and food side item chosen for the voucher meal was healthy or less healthy was coded on-site at the restaurant by research assistants on the questionnaire itself. We were not allowed to retain the actual receipts/vouchers per company policy. Thus, only one meal was analyzed per parent, even if the parent ordered more than one children's meal; we took this approach across all subsequent studies. Respondents were debriefed on the purpose of the study after they completed the study.

## Results and Discussion

In order to assess the relationship between parents' social comparison orientation and actual choice when ordering a children's meal, respondents' choice of side items was coded as 0 when no healthy side item was chosen and 1 when one or two healthy side items (both beverage and food side item) were chosen as part of the meal they received from their voucher (i.e., an order of French fries and soda would result in a score of 0, and an order of French fries and water or an order of fruit and water would both result in a score of 1, since at least one healthy side item is present).<sup>7</sup> We used the classification of side items (perceived as healthy and less healthy) from the first pilot study in order to complete this coding. We note that, in this study, no participant chose both a healthy beverage and healthy food side item.

Results from a logistic regression with parents' social comparison orientation as the predictor variable and choice of side items as the outcome variable (controlling for parent's age and gender and the age of the child for whom the voucher was redeemed) showed that parents' scores on the social comparison orientation scale significantly affected their choice of healthy/less healthy side items ( $\beta = -.45$ , Wald  $\chi^2(1) = 4.42$ ,  $p = .036$ ), such that parents with a higher social comparison orientation were less likely to choose a healthy side item for their children.

In sum, results from Study 1 support our hypothesis that parents with a high social comparison orientation are more likely to make food choices for their children that conform to the norm of less healthy choices identified in the pilot study (H1). Specifically, parents with a high social comparison orientation were less likely to choose healthy side items as part of a children's meal compared to parents with a low social comparison orientation.

## Study 2a

Study 2a was designed to test our second hypothesis, which posits that implicit self-theories of malleability and fixedness of personality moderate the effect of social comparison orientation on parental food choice. We did so by measuring parents' social comparison orientation and their implicit theory of the self. We followed the same overall procedure as we did in Study 1, including collecting real choice data.

## Method

One hundred and eighty parents agreed to participate; sixteen respondents were excluded from the analysis either because the children were outside the age range of 2–11 years or because the children's age was not reported, resulting in a final sample of 164

<sup>6</sup> Based on the results of the pretest we decided to employ abbreviated versions of the two scales in our studies for two reasons: First, items in both scales loaded on multiple factors. In order to gain a unidimensional measure, we reduced the scale to a one-factor solution. Second, a shorter questionnaire was desirable for the field setting of our studies in order to maximize the likelihood that respondents would (1) not be discouraged from participating by a lengthy questionnaire and (2) complete the entire questionnaire.

<sup>7</sup> In subsequent studies we present our primary analysis using this dichotomous coding and a supplemental analysis using count of healthy items chosen as the dependent variable. Because no participant chose two healthy side items in study 1, the dichotomous coding is identical to count of healthy items so only one analysis is presented for this study.

(79% female,  $M_{\text{age(Parents)}} = 36$  (SD = 8.28),  $M_{\text{age(Children)}} = 6.1$  (SD = 2.66)). The study was conducted on the same days and times in four restaurant locations of the same fast food chain in this region. Respondents who volunteered to participate in the study completed several measures: (1) their estimates of the percentage of other parents in their social circle of friends, family, and colleagues that they thought would choose healthy/less healthy side items for their children at a fast food restaurant, (2) their social comparison orientation (reduced scale based on Gibbons & Buunk, 1999), (3) their implicit self-theory of personality (reduced scale based on Levy et al., 1998), and (4) their demographic information. As in Study 1, the last page of the questionnaire contained the voucher for a children's meal, which was only valid on that day and at that location. Respondents were debriefed on the purpose of the study by a different research assistant after completing the study.

## Results

### Perceptions of Choice Made by Other Parents in the Social Circle

Respondents estimated that a majority of other parents in their social circle would prefer fries instead of a healthier side like fruit ( $M = 60.0\%$ ) and would prefer soda over a healthier beverage like water ( $M = 62.3\%$ ) with their children's meal, consistent with the findings in our pilot study that the norm in this population is to order less healthy sides for children at fast food restaurants. Estimates did not vary by respondents' social comparison orientation or implicit self-theory.

### Impact of Social Comparison Orientation and Implicit Self-Theories on Choice

Using PROCESS (Model 1) for SPSS (Hayes, 2013), we regressed choice of healthy side items (i.e., whether one or more of the items was healthy regardless of whether this was the beverage or the food side) on social comparison orientation, implicit self-theories, and their interaction. We first mean-centered scores on the social comparison orientation scale and the implicit self-theories scale. We used age of parents, parents' gender, and the age of the children as controls. Results revealed a marginally significant negative effect of social comparison orientation ( $\beta = -.23$ ,  $Z = -1.68$ ,  $p = .09$ ), such that those with a higher social comparison orientation were less likely to choose healthy side items. We did not find a significant main effect of implicit theories of the self ( $\beta = -.19$ ,  $Z = -1.64$ ,  $p > .1$ ). Most importantly, however, the results revealed a significant interaction ( $\beta = -.18$ ,  $Z = -1.99$ ,  $p = .046$ ) between social orientation and implicit self-theories, as predicted in H2 (see Fig. 2 – Panel A for details).

A floodlight analysis (Spiller et al., 2013) was used to test the regions of significance of the measured moderator variable (implicit theories) on the effect of social comparison orientation on choice of a healthy side item. Results indicated that there was a significant conditional effect of implicit self-theories only among participants who had a score of 4.16 and above on the social comparison orientation scale ( $SE = .14$ ,  $p = .05$ ). When participants have a high social comparison orientation, those

that are malleable theorists are significantly less likely to order healthy side items for their children compared to those who are fixed theorists. These results support H2 and demonstrate the robustness of our findings. There was no significant difference between malleable and fixed theorists in their likelihood of ordering healthy side items for children among respondents with a low social comparison orientation (below 4.16).

We also ran the main analysis using a count of the number of healthy items chosen. When doing so, the self-theory  $\times$  social comparison interaction is non-significant ( $\beta = .031$ ,  $Z = 1.239$ ,  $p = .216$ ), but we also noticed that the number of participants who chose two healthy options was extremely small ( $n = 15$  or 9.1% of the sample). We speculate that this small group of individuals may be highly health conscious and hence not sensitive to normative information in this context. When analyzing the results removing these participants and using number of healthy options chosen as the DV ( $n = 149$ ), the results conceptually replicate those for the full sample, that is, the focal interaction between self-theory and social comparison orientation remains significant ( $\beta = -.295$ ,  $Z = -2.668$ ,  $p = .008$ ).

## Discussion

Our results show that parents were not uniformly likely to conform to their belief that the norm in their parental network is to order less healthy versus healthy fast food side items for their children. Those with a higher social comparison orientation were marginally less likely to choose healthy side items. Parents with a high social comparison orientation who are malleable theorists had the lowest likelihood of choosing at least one healthy side item as part of the children's meal they ordered. To test the robustness of these results, we aimed to replicate these findings by experimentally manipulating rather than measuring implicit self-theories in Study 2b.

## Study 2b

Research on implicit self-theories has shown that these beliefs about fixedness or malleability of personality can be experimentally induced (Chiu, Hong, & Dweck, 1997; Jain et al., 2009; Yorkston et al., 2010). In Study 2b, we therefore manipulated consumers' implicit self-theories to test the robustness of our findings.

## Method

One hundred and fifty-nine parents with an accompanying child participated in Study 2b. Four respondents were excluded from the analysis because their children were older than eleven. The final sample had 155 parents (68% female,  $M_{\text{age(Parents)}} = 37$  (SD = 5.99),  $M_{\text{age(Children)}} = 5.9$  (SD = 3.06)). Similar to our previous studies, this field experiment was conducted in four locations of the same fast food chain on the same days and at the same times and followed the same procedure as in Study 2a with one exception. Rather than measuring self-theories in the questionnaire, we experimentally manipulated implicit self-theories by using the widely followed procedure of asking respondents to

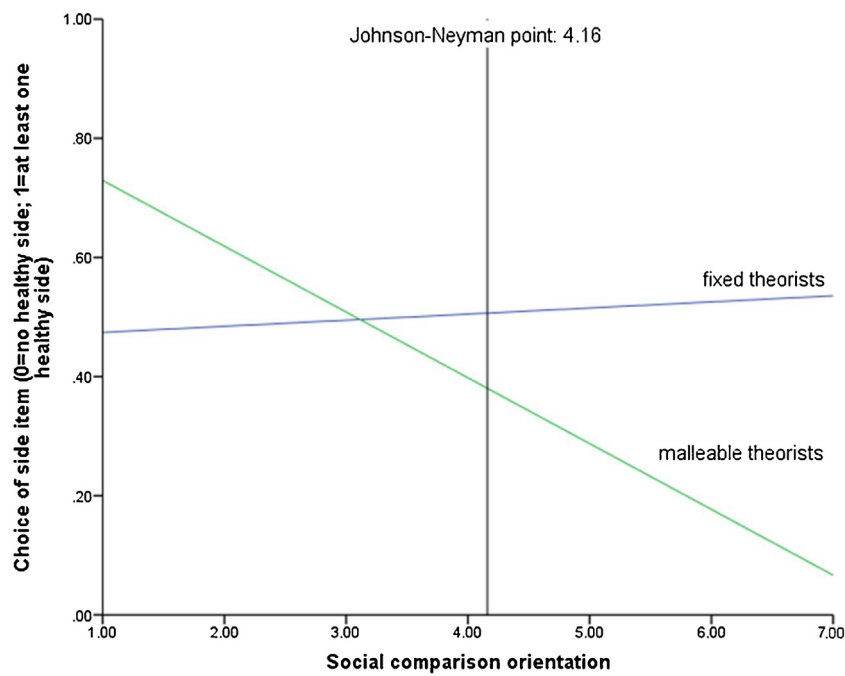
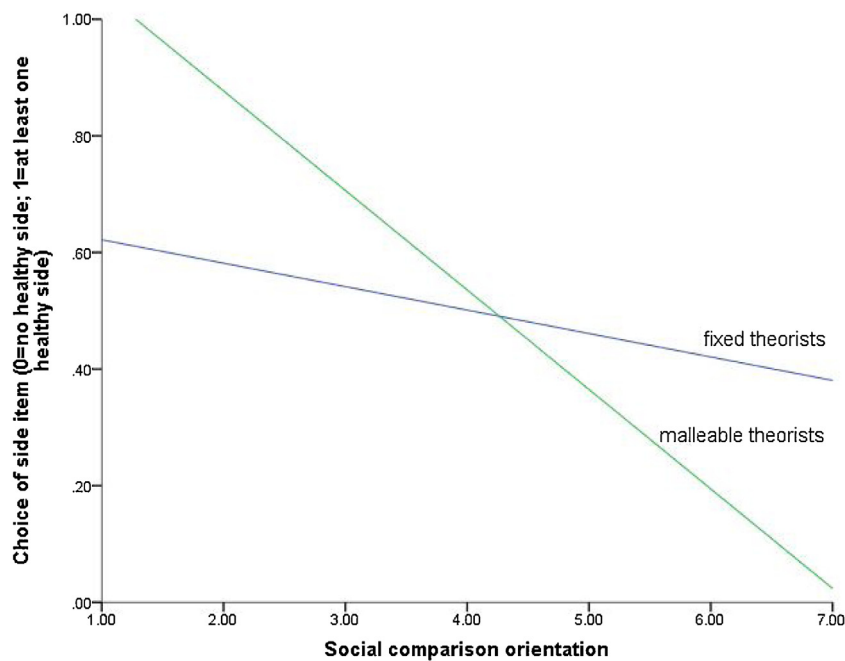
**A****B**

Fig. 2. Panel A Implicit Theory of the Self (Measured) Moderates the Influence of Social Comparison Orientation on Choice of Healthy Side Item (Study 2a, Floodlight Analysis). Panel B Implicit Theory of the Self (Manipulated) Moderates the Influence of Social Comparison Orientation on Choice of Healthy Side Item (Study 2b).



read a passage about the fixedness (or malleability) of personality as explained by a well-known researcher with the ostensible purpose of answering a brief reading comprehension test (Chiu et al., 1997; Jain et al., 2009; Yorkston et al., 2010) (see Appendix for the manipulation). Parents were randomly assigned to one of the two experimental conditions. Respondents were debriefed on the purpose of the study by a different research assistant after completing the study.

## Results

The implicit theories scale used in Study 2a was employed here as a manipulation check. As expected, the manipulation of implicit self-theories was successful. Participants exposed to the fixed theory prime ( $M_{\text{Fixed}} = 3.61$ ) differed significantly from those exposed to the malleable theory prime ( $M_{\text{Malleable}} = 4.35$ ;  $F(1, 155) = 9.36$ ,  $p < .05$ ) on the implicit theories measure ( $\alpha = .89$ ,  $M = 3.97$ ). Higher scores on this measure indicate a more malleable self-theory.

We next regressed choice of healthy side items on scores on the social comparison orientation scale (mean-centered), manipulated self-theory (coded such that fixed self-theory = -1 and malleable self-theory = 1), and their interaction. We used PROCESS (Model 1) for SPSS (Hayes, 2013) for the analysis and controlled for age of parents, parents' gender, and the age of the children. We found a main effect of social comparison orientation, replicating support for H1 ( $b = -.47$ ,  $Z = -3.23$ ,  $p < .01$ ), such that parents with a high social comparison orientation were less likely to order healthy side items. As in Study 2a, we did not find a main effect of implicit self-theories ( $b = -.19$ ,  $Z = -1.06$ ,  $p > .1$ ). Instead, we found a significant interaction between scores on the social comparison orientation scale and manipulated self-theory (fixed or malleable) ( $b = -.31$ ,  $Z = -2.13$ ,  $p = .033$ ), as predicted in H2 (see Fig. 2 – Panel B for details). Follow-up simple effects analyses of the conditional effects for the dichotomous moderator indicated that for those primed to be fixed theorists, there was no difference in likelihood of ordering healthy side items by social comparison orientation ( $b = -.16$ ,  $Z = -.93$ ,  $p > .10$ ). In contrast, those primed to be malleable theorists who had a high social comparison orientation were significantly less likely to order healthy side items for their children compared to those primed to be malleable theorists who had a low social comparison orientation ( $b = -.78$ ,  $Z = -3.36$ ,  $p < .01$ ). When we ran the same analysis using count of the number of healthy items chosen, the focal interaction was non-significant ( $\beta = -.048$ ,  $Z = 1.321$ ,  $p = .189$ ), but, as in Study 2a, the number of participants who chose two healthy options was quite small ( $n = 8$ , 5.2% of the sample). When these participants were removed, the results conceptually replicate those using the dichotomous coding for the full sample ( $n = 147$ ;  $\beta = -.31$ ,  $Z = -2.137$ ,  $p = .032$ ).

## Discussion

The consistent finding in Studies 2a and 2b is that parents with a high social comparison orientation who are malleable theorists are more likely to conform to the perceived norm in

their parental social network than parents who are malleable theorists but have a low social comparison orientation or parents who are fixed theorists (regardless of their social comparison orientation). The significant interaction of social comparison orientation and implicit theory of the self in Studies 2a and 2b is driven by this group of parents, regardless of whether self-theory was measured or manipulated. Thus, an important question remains: How can marketing managers or public policy makers influence the choices made by these parents?

## Changing parental food choice through social norms marketing

The communication of descriptive social norms, also called social norms marketing, has been widely used to change the behavior of individuals in a desired direction (Calder & Burnkrant, 1977; Cialdini & Trost, 1998). The underlying mechanism of such an intervention is to inform individuals how other individuals behave in comparable situations in order to encourage them to conform to that behavior (Goldstein et al., 2008; Reno, Cialdini, & Kallgren, 1993). Research has shown that communicating descriptive norms can encourage consumers to reuse hotel towels (Goldstein et al., 2008), to engage in unfamiliar sustainable behaviors like grasscycling (White & Simpson, 2013), and to reduce adolescents' intention to smoke (Andrews et al., 2004). More broadly, social norms are a powerful influence on eating behavior (Higgs, 2015), and descriptive norms have been shown to impact food choices both in the lab (Burger et al., 2010) and in the field (Mollen et al., 2013; Reicks et al., 2012).

Though there exists an extensive body of research on the effectiveness of social norms marketing, there is relatively limited research that investigates moderators of normative influence. Recent research by White and Simpson (2013) demonstrated that descriptive norms are more likely to yield conformity when an individual (vs. collective) self is activated. Other research suggests that adherence to descriptive social norms is higher when the situation in which the norm is formed is more comparable to the setting the conforming individual is currently occupying (Goldstein et al., 2008). We add to this emerging body of research by proposing that an individual's social comparison orientation and their implicit theory of the self interact to influence their tendency to conform to a descriptive social norm.

We found in Studies 2a and 2b that parents with a high social comparison orientation and a malleable view of the self conform to the perceived norm within their parental social network to a greater extent than any other type of individuals identified by examining the interaction between social comparison orientation and self-theory. We now predict that these same individuals are also most likely to be affected by a social-norms based marketing intervention in which a new, healthy, descriptive social norm is communicated. This is because they are most likely to attend to this new, healthy descriptive social norm (due to high social comparison orientation) and most likely to be influenced by this information (due to their malleable theory of the self, which makes them more likely to adjust to match relevant

contextual information). In contrast, malleable theorists with a low social comparison orientation will be less affected by the behavior of other parents in their social network than those with a high social comparison orientation. Similarly, fixed theorists, regardless of social comparison orientation, are unlikely to be affected by any norm – new or established – in a parental social network because they are less likely to adjust their own preferences/attitudes to fit a particular context. We therefore predict:

**H3:** Presence (vs. absence) of a descriptive social norm of choosing healthy food for children significantly increases choice of healthy foods for children among the individuals most sensitive to information about what other parents in their social network are choosing (i.e., parents with a high social comparison orientation and a malleable theory of the self). Presence/absence of a descriptive social norm will not affect choices made by parents with a different combination of social comparison orientation and self-theory.

### Study 3

In Study 3, we test H3 by providing parents making fast food choices for their children with supposedly objective information about a descriptive norm for parents in the same situation.

#### Method

Study 3 respondents were recruited in a similar fashion as in previous studies, in four restaurant locations of the same fast food chain. Similar to Study 2a, we measured respondents' social comparison orientation and implicit self-theory. We then manipulated a descriptive social norm in the study questionnaire. About half of the study respondents read an excerpt from a newspaper article at the beginning of the questionnaire (before making their food order) that claimed that 75% of all parents choose healthy products for their children at fast food restaurants. This descriptive social norm manipulation was adapted from Goldstein et al. (2008) and is shown in Appendix. The other half of the study sample did not receive this information. Thus, the study used a measured social comparison orientation  $\times$  measured self-theory  $\times$  2 (descriptive social norm explicitly communicated to be healthy: present vs. absent) design. Parents were randomly assigned to one of the two experimental conditions (with and without a social norm intervention) at all four restaurant locations. Three hundred and nine parents participated in the study, and 21 respondents were excluded because the accompanying children were either older than 11 or younger than two, yielding a total of 288 respondents (70.8% female,  $M_{\text{age(Parents)}} = 38$  ( $SD = 6.36$ ),  $M_{\text{age(Children)}} = 6.4$  ( $2.71$ )). We used the same scales and measures as in previous studies. As in previous studies, participants were debriefed after completion of the study.

#### Results

We asked respondents who saw the descriptive social norm to recall, from the expert quoted in the newspaper article they

read, the percentage of parents who choose healthy side items for their children at a fast food restaurant. Ninety-eight percent of respondents recalled the correct proportion (i.e., 75%), and this number did not differ by social comparison orientation or self-theory.

In order to test H3, we regressed choice of side items on scores on the social comparison scale (mean-centered), scores on the self-theory scale (mean-centered), the manipulated factor of whether participants were shown information about the new healthy social norm (coded such that norm not present =  $-1$  and norm present =  $1$ ), and all possible interactions of these factors while including the controls used in previous studies. First, we checked whether the social norm intervention was able to increase healthy food choices overall. A total of 39.4% of the respondents choose at least one option perceived as healthy when they did not receive healthy norm information, compared to 51.0% of those who received the healthy social norm treatment ( $b = .27$ ,  $Z = 4.53$ ,  $p = .03$ ), consistent with past research showing the power of social norms to influence behavior (Goldstein et al., 2008). This represents an increase of over 29% in the percentage of parents choosing at least one healthy side item as part of the children's meal because of the social norm intervention. Most importantly, as hypothesized in H3, the results reveal a significant 3-way interaction ( $b = .138$ ,  $Z = 4.00$ ,  $p = .045$ ). To explicate the three-way interaction, we report the results for participants who did not see the healthy social norm intervention separately from the results for participants who did see the healthy social norm information in the following sections.

We note that we also ran the full model analysis using a count of the number of healthy items chosen as the dependent variable and found a non-significant three-way interaction using this coding ( $\beta = .018$ ,  $Z = .849$ ,  $p = .396$ ). However, as in previous studies, the number of participants who chose two healthy options was small ( $n = 33$  or 11.5% of the sample). When analyzing the results removing these participants, the focal three-way interaction hypothesized in H3 is marginally significant, conceptually replicating the results using the dichotomous coding for the full sample ( $n = 255$ ;  $\beta = .121$ ,  $Z = 1.639$ ,  $p = .100$ ). The follow-up analyses reported next use all participants and the dichotomous coding.

#### Results When No Descriptive Healthy Social Norm is Communicated

When participants did not see information communicating a healthy social norm, results replicated findings from Studies 2a and 2b. Analyzing the data using PROCESS (Model 1) for SPSS (Hayes, 2013), we found a main effect of social comparison orientation, supporting H1 ( $b = -.37$ ,  $Z = -2.33$ ,  $p < .05$ ). We did not find a significant main effect of implicit theories of the self ( $b = -.13$ ,  $Z = -.94$ ,  $p > .1$ ). Most importantly, the results revealed a significant interaction ( $b = -.24$ ,  $Z = -2.2$ ,  $p < .05$ ) between scores on the social comparison orientation scale and the implicit self-theories scale, as predicted in H2 (see Fig. 3 for details). The follow up floodlight analysis (Spiller et al., 2013) showed that there was a significant conditional effect of implicit self-theories only among participants who had a score of 4.14 and above on the social comparison orientation scale

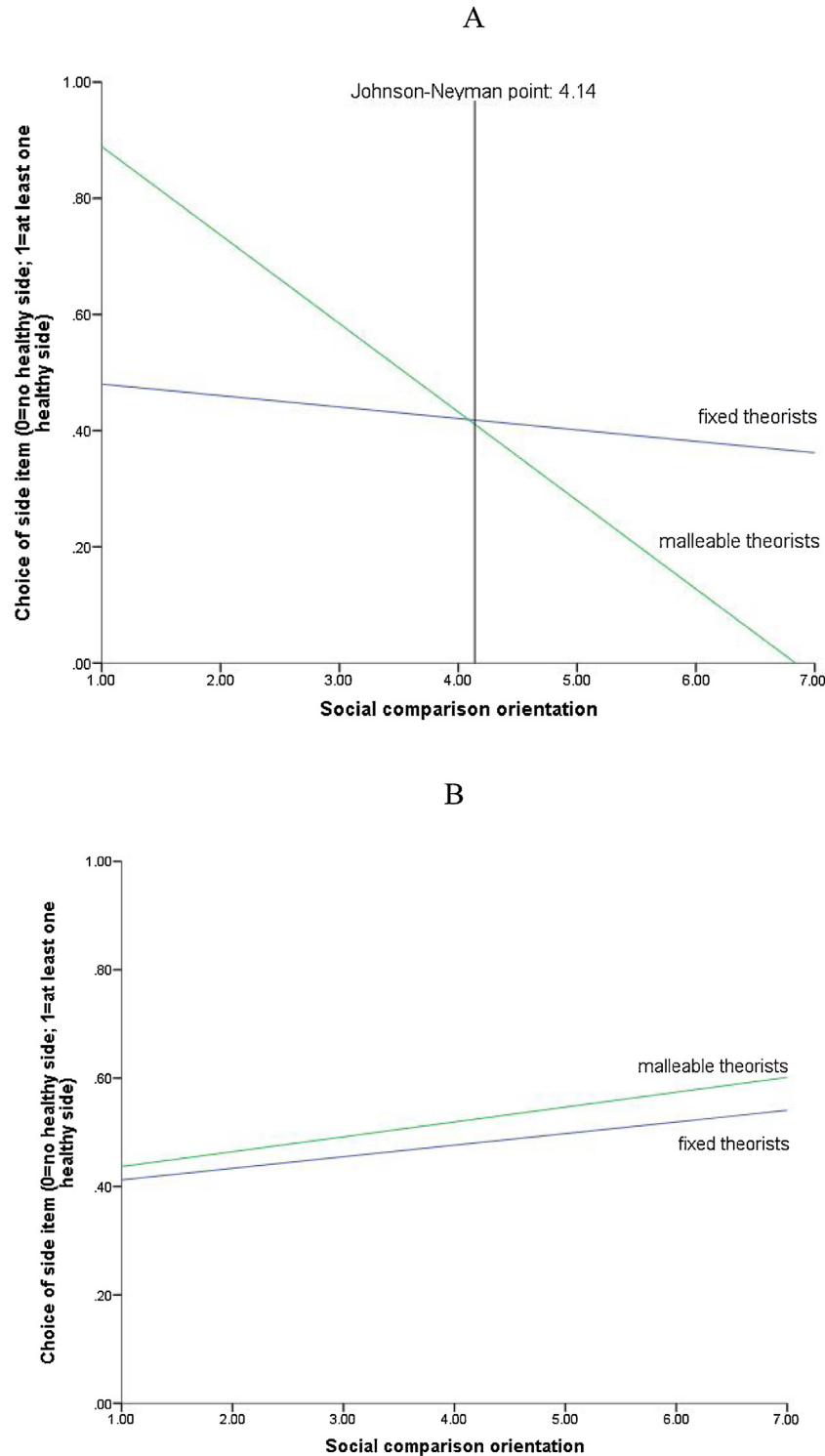


Fig. 3. The Effect of Social Norm Intervention (Study 3, Floodlight Analysis).

( $SE = .17, p = .05$ ). Specifically, when parents have a high social comparison orientation, those that are malleable theorists were significantly less likely to order healthy side items for their children than those who are fixed theorists. These results support H2 and demonstrate the robustness of our findings. There was no significant difference between malleable and fixed theorists in their likelihood of ordering healthy side items among par-

ents with a low social comparison orientation (below 4.14), as in Study 2a.

#### *Results When the Descriptive Healthy Social Norm is Present*

When participants did see a descriptive healthy social norm, there were no main effects of social comparison orientation

( $b = .09$ ,  $Z = .68$ ,  $p > .1$ ) or implicit theories ( $b = .06$ ,  $Z = .49$ ,  $p > .1$ ) on choice of side items. In addition, we did not find a significant interactive effect of these two measures ( $b = .01$ ,  $Z = .15$ ,  $p > .1$ ). These results, in concert with the results when a descriptive healthy social norm is present, suggest that the social norm intervention increased the choice of healthy side items specifically for parents who are malleable self-theorists with a high social comparison orientation, such that their choices were as healthy as those of other parents.

### Discussion

Consistent with H3, the results of Study 3 demonstrate that the descriptive healthy social norm intervention eliminated the effects consistently found in our previous studies. When presented with information that a large majority of other parents choose healthy food options for their children at a fast food restaurant, a significantly larger proportion of parents with a high social comparison orientation who were malleable theorists chose at least one healthy side item when ordering their children's meal compared to when such information was not presented. In contrast, this new information about other parents had no effect on parents with a low propensity for social comparison or parents who were fixed theorists.

One limitation of this study is that we provided information to communicate only a healthy descriptive social norm (leaving participants to rely on their own internalized norm of choosing less healthy side items in the condition in which we did not communicate a descriptive social norm). We also note that there was no main effect of self-theory in this study even when normative information was clearly presented, which one might expect since past research has argued that malleable self-theorists are, overall, more sensitive to contextual information. We speculate that even when information about what other parents order is presented clearly, malleable theorists are who low in social comparison orientation simply do not see this information as relevant to their decisions, resulting only in a significant interaction between self-theory and social comparison orientation.

### General Discussion

Given that (1) parents are the main influencers of children's healthy eating habits well into adolescence (Pedersen, Grønhoj, & Thøgersen, 2015) and (2) eating patterns established during childhood persist throughout one's adult life (Lien, Lytle, & Klepp, 2001; Raju et al., 2010), understanding how parents choose between less healthy and healthy options for children has lifelong implications. We find robust evidence that parents' social comparison orientation and implicit theory of the self influence their choice of food items for their children at fast food restaurants. More specifically, parents with a high social comparison orientation who are malleable theorists are most susceptible to conforming to this norm, which, in the population we study, is to order relatively less healthy side items for children at a fast food restaurant. It is this critical group of parents that had the highest likelihood of choosing less healthy side items as part of the children's meals ordered in our studies. By providing a descriptive social norm intervention – contradic-

tory (and fictitious) information that a majority of other parents choose healthy items for their children at a fast food restaurant – we were able to dramatically increase the overall proportion of parents that chose a healthy side item by increasing the choice of healthy items specifically for this group so that their choices matched those of other parents.

Our results suggest the potential to have real impact on the calories children are consuming. A comparison of the average calories of healthy and less healthy side items suggests that parents ordering healthier side items did significantly reduce the calories children were served at the retail outlet where we ran our studies. Parents who chose a healthy beverage and a healthy food side served, on average, 70.57% fewer calories in side items to their children than parents who chose a less healthy beverage and less healthy food side. The difference is not as stark when comparing parents who chose only one healthy side (beverage or food) to parents who chose two less healthy sides, but even one healthy choice still resulted in 35.28% fewer calories served. See Table 1 for the percentage of respondents who chose each possible combination of side options across all studies.

### Theoretical Implications of our Research

Our research makes novel contributions to the literature on choices for others in a retail context, social influence on food choice, implicit self-theories and lay theories in a food consumption context, the effectiveness of descriptive social norms, and the larger body of work aimed at understanding drivers of food choice and the role parents play in their children's health. First, we contribute to the retailing literature by exploring choices for others in a retail context (Liu et al., 2019). Specifically, while other researchers have explored gift giving (Bradford & Sherry, 2013) and joint consumption in this context (Wakefield & Inman, 2003), we are among the first to explore care-giving choices made at retail fast food restaurants in an attempt to understand how parental individual differences impact choices for their children.

Second, we build on research examining the role of social influence on food choice (McFerran et al., 2010a; McFerran et al., 2010b; Poor et al., 2013) in a retail environment (Zhang et al., 2014). We contribute to this stream of research by theorizing and demonstrating, for the first time, that social comparison orientation determines the degree of influence that parental social networks have on parents' food choices for their children.

Third, we contribute to research on implicit self-theories and lay theories in food consumption contexts. Although prior research has shown that fixed theorists behave in ways consistent with their inner beliefs and malleable theorists adapt their behavior based on the context or situation (Chiu et al., 1997), we show, for the first time, that the extent to which malleable theorists adjust their behavior to a social comparison standard is determined by their social comparison orientation. A majority of research exploring how lay theories can lead consumers to make less healthy food choices has explored lay theories about the relationship between specific food attributes (e.g., health and price in Haws et al., 2017; health and taste in Raghunathan et al., 2006) while other work has focused on lay theories about



Table 1

Percentage of Respondents Choosing Each of the Possible Combinations of Healthy and Less Healthy Beverages and Food Sides across Studies.

	Healthy Beverage + Healthy Food Side	Healthy Beverage + Less healthy Food Side	Less healthy Beverage + Healthy Food Side	Less healthy Beverage + Less Healthy Food Side
Study 1	0%	48.3%	0%	51.7%
Study 2a	9.1%	12.8%	23.2%	54.9%
Study 2b	5.2%	32.9%	5.2%	56.8%
Study 3	11.5%	30.6%	7.3%	50.7%

the source of obesity (McFerran & Mukhopadhyay, 2013). In contrast, we show that consumers' implicit self-theories interact with social comparison orientation to influence food choice for their children.

Fourth, our work adds to the small yet growing body of research on moderators of social norm effectiveness. We enhance this literature by showing that a descriptive social norm intervention is most effective with consumers with a high social comparison orientation who are malleable theorists. On the other hand, it has little effect on those with a low social comparison orientation or those who are fixed theorists. Our work also contributes to the broader literature exploring how descriptive social norms influence food consumption (Burger et al., 2010; Higgs, 2015; Mollen et al., 2013; Reicks et al., 2012).

Finally, this research contributes directly to the growing literature in marketing aimed at understanding drivers of children's consumption of food (e.g., Connell et al., 2014; Moore et al., 2017; Raju et al., 2010). Our findings support the consumer socialization framework analyzing the family's influence on children's bodily development proposed by Moore et al. (2017) by using one of the five elements in their framework, parental factors.

### Managerial and Public Policy Implications

In a culture with increasing sensitivity to making healthy food choices, particularly for children, our research offers practical insights to managers and policy makers. For over a decade, fast food restaurants have increased the availability of healthy food options on their menus, and more recently, affected major changes to their children's meal options (e.g., in the U.S., Wendy's removed soda as a choice in children's meals; Bowerman, 2015). Doing so allows the retailer to enhance the customer experience by communicating shared values with parents who say they want the option to buy healthy food for their children at fast food outlets (Grewal et al., 2017).

Our findings suggest that despite the availability of such side items on fast food menus, parents with a high tendency to engage in social comparison and a malleable view of the self are most likely to conform to the established norm in their parental social network, whether it is to order healthy or less healthy foods. Given that the norm in the population we studied is to order a less healthy side item (e.g., fries) versus a healthy side item (e.g., fruit), conforming results in significantly less healthy orders for the children of this group of parents. Recent survey evidence indicates that this norm is prevalent in other populations and

not just limited to the specific geographic location we studied (Scher, 2018).

Why might the norm be to order less healthy items for children? Although there has clearly been demand from some stakeholders to offer healthier options for children at fast food restaurants, consumers appear to still value less healthy options as indulgent "treats" (Trivedi, Sridhar, & Kumar, 2016), in line with the idea that "unhealthy = tasty" (Raghunathan et al., 2006). Our findings suggest that managers and policy makers can target the group most likely to conform to a less healthy norm to shift the balance from choosing indulgent treats to healthier options. To do so, Study 3 suggests descriptive social norm interventions may be effective.

The results of Study 3 suggest that employing descriptive social norms that describe others making healthy food choices for their children could influence parents to make healthier choices, particularly parents with a malleable view of the self and a high social comparison orientation. These norms could be communicated using point-of-sale materials (e.g., menus, menu boards, in-store signage, server scripts). However, there are two potential caveats to this approach. One is that the actual norm in the population may be to choose less healthy options (as it was in the population we studied). Managers and policy makers may have difficulty phrasing social norm interventions that are both healthy and truthful in populations where this is the case. To do so, they may need to focus on narrowly defined behaviors (e.g., choosing a specific side item) versus general norms about "being healthy." In doing so, it is critical that managers not cross the border into making deceptive claims, both from an ethical and legal perspective. Given that healthy norms are not universal, managers may also wish to explore other ways to suggest a healthy norm without making explicit statements that healthy items are chosen more frequently than less healthy items if this is not, indeed, the case. One possibility for doing so is to visually depict a representative family in the region enjoying healthy side items as part of a children's meal. Signs indicating that fruit is "now trending" or "a popular choice" may also imply a descriptive norm toward healthy choices without being deceptive. Adding a healthy option as a mandatory side item might also effectively change the norm (Settembre, 2017). Future research could test the efficacy of such implied social norms. In addition to these verbal and visual cues, managers may also consider other types of sensory cues that may suggest that the norm in a restaurant is to order healthy food. For example, recent research shows that light and pale colors may signal healthiness (Mai, Symmank, & Seeberg-Elverfeldt, 2016), while other work has found that

atmospheric cues like sounds (Biswas, Lund, & Szocs, 2019) and smells (Biswas & Szocs, 2019) in the retail environment may also subtly cue healthiness. Research could explore whether these types of atmospheric cues can shape perceptions of what the normative choice is in the retail environment. It is possible that these cues may remind consumers about their own personal values for healthy eating, which could positively influence choice of healthy foods by increasing self-accountability (Peloza, White, & Shang, 2013).

Second, descriptive social norms may not be effective in nudging all consumers. This is a key implication from our research. We show that a descriptive social norm is most effective for consumers with a high social comparison orientation who are malleable theorists. Rather than viewing descriptive social norms as universal cures, managers and policy makers will benefit from understanding how specific groups respond to these interventions and designing customized communication for each group, a strategy which may be achievable digitally.

We end this section by asking why fast food managers would want to help customers make healthier choices. We suggest several reasons. The first is because many managers do have a genuine desire to partner with customers in helping them achieve healthy goals. In addition, there are at least two good reasons to do so from a business perspective. If a firm is perceived as a partner in making healthy choices who genuinely cares about its customers, it will no doubt receive positive publicity as a result and could potentially attract new customers from doing so. Our results suggest that there are parents who want to consistently make healthy choices at fast food restaurants, even if this group is relatively small (i.e., the small group of customers who chose both a healthy food side and healthy beverage for their child across our studies). The more this group of customers feels that they are able to do so, the more likely they are to patronize these restaurants, allowing the fast food retailer to attract more of these parents and garner a bigger share of wallet for those who are already their customers.

Further, getting parents to choose healthier food and beverage side items at a fast food restaurant has the potential to significantly increase customer satisfaction and repurchase intentions. We suggest that after making a healthy choice for children, parents likely feel good about their decision and hence about the customer experience. The positive affect generated from feeling like a good parent for making a healthy choice could help fast food restaurants become an option regularly chosen from the consideration set, even when parents are prioritizing healthy choices for children, thus increasing sales and revenue for the restaurant. We propose that future research explore the affective consequences for parents and resulting effects on repurchase intentions when consumers feel like a retailer has made it easier for them to make a healthy choice for their children. Important here will be understanding when consumers feel like such “help” from a retailer is truly help and not something that is forced on them (which could produce reactance, thus minimizing the potential for positive impact on sales; Brehm, 1966).

### *Limitations and Directions for Future Research*

Our findings lead to multiple opportunities for further research. Whereas our studies examined parental food choices at a fast food restaurant, future research can investigate other parental choices to test if our results persist across other food choices for children, including food bought at a grocery store or meals cooked at home. It is possible that our results will not be as strong in a grocery store environment. In our studies, parents’ choices were constrained to two side dishes among a set of clearly less healthy and healthy options. Other parents’ choices are also clearly observable in the restaurant if parents choose to pay attention. In a grocery store environment, it is unlikely to be as clear what items in a shopping cart are being chosen for children and when they are being consumed (e.g., as snacks, as part of a meal, at school vs. home, etc.). Thus, norms may not be as clear in other retail contexts, making even those with a high social comparison orientation and a malleable self-theory less subject to their influence. Similarly, norms for home consumption may also be unclear. However, to the extent that a norm is clearly understood in these other contexts, we would expect our results to replicate.

A further test of the theory we developed would be to conduct similar studies in a restaurant specifically known for healthy food, or in a region with a high incidence of healthy food purchase. Our baseline study showed that a majority (58.4%) of transactions involving a children’s meal in this setting included less healthy side items. Our theory would suggest that, in a setting where these numbers were reversed, parents with a high social comparison orientation who are malleable theorists would be more likely to choose healthier food for their children than parents with a low social comparison orientation or those who are fixed theorists.

Further, although we measured real choices that parents made for their children in field studies run in real fast food locations, we did not measure children’s own preferences or parents’ perceptions of those preferences (and how they might influence whether the child actually eats what is chosen for them). Liu et al. (2019) characterize care-giving as a balance of the recipient’s preferences and the chooser’s own preferences. Future research should explore factors that might increase or decrease the child’s influence. Fruitful possibilities include the child’s age, whether the child has health issues the parent is managing, and the purpose of the visit to the retail location (e.g., for a typical meal or as a treat for the child). It is also possible that parents with a malleable theory of the self are more susceptible to influence from their own children, just as they are more subject to other contextual information. Future research might also explore what factors influence whether a choice for a child falls into the care giving cell of Liu et al.’s (2019) framework (where both parties have influence) or the “everyday favors/pick-up” cell, where a decider simply buys the option the recipient requests.

Finally, future research could also explore whether the tightness of the parental network affects the degree of conformity

among parents. The setting of our studies – parents in a specific geographic region who visited four restaurant locations of the fast food chain with their children – may suggest a loose parental network, that is, other parents that live in this region. While we find support for our theory within this setting, future research can examine the degree of tightness or looseness of the parental network by measuring and manipulating this variable and testing whether it affects the hypothesized relationships found in our studies.

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### Appendix

#### A.1 Pretest of Scales

We conducted a pretest with the two main scales – Social Comparison Orientation (taken from Gibbons & Buunk, 1999) and Implicit Theories of the Self (taken from Levy et al., 1998). The pretest was conducted at the same fast food restaurant locations as in the main studies. Participants ( $n = 212$ ) were parents who visited the fast food restaurant with at least one child. We did not exclude any participants regardless of the age of their accompanying child. Items used in the main studies are marked in bold in the following tables. We note that all questionnaires were originally drafted in English and translated into the native language of the region by a bilingual expert who was a native speaker. The questionnaire was then back translated into English by another bilingual expert and checked for consistency with the original. This standard procedure, developed by Brislin (1970), is commonly followed by marketing researchers (De Jong et al., 2008).

<b>Social Comparison Orientation</b> (response format: 7-point Likert scale; 1 = strongly disagree, 7 = strongly agree) Cronbach's $\alpha$ (full scale): .66	Mean	SD
I often compare how my loved ones (boy or girlfriend, family members, etc.) are doing with how others are doing. (SC1)	3.70	1.82
I always pay a lot of attention to how I do things compared with how others do things. (SC2)	3.29	1.59
If I want to find out how well I have done something I compare what I have done with what others have done. (SC3)	3.31	1.78

I often compare how I am doing socially (e.g., social skills, popularity) with other people. (SC4)	2.44	1.48
I am not the type of person who compares often with others. (reversed) (SC5)	4.23	2.04
I often compare myself with others with respect to what I have accomplished in life. (SC6)	3.07	1.74
<b>I often like to talk with others about mutual opinions and experiences. (SC7)</b>	<b>5.17</b>	<b>1.46</b>
<b>I often try to find out what others think who face similar problems as I face. (SC8)</b>	<b>4.78</b>	<b>1.61</b>
<b>I always like to know what others in a similar situation would do. (SC9)</b>	<b>4.14</b>	<b>1.78</b>
<b>If I want to learn more about something I try to find out what others think about it. (SC10)</b>	<b>4.06</b>	<b>1.65</b>
I never consider my situation in life relative to that of other people. (reversed) (SC11)	4.43	1.95

Exploratory factor analysis of all Social Comparison Orientation items yield a four factor solution explaining 65.89% of the variance. Rotation shows that SC7-10 have the highest loadings on their respective factor (Cronbach's  $\alpha$  for shortened scale = .72).

<b>Implicit Theories of the Self</b> (response format: 7-point Likert scale; 1 = strongly disagree, 7 = strongly agree) Cronbach's $\alpha$ (full scale): .82	Mean	SD
The kind of person someone is, is something very basic about them, and it can't be changed very much. (EO1)	3.76	1.77
People can do things differently, but the important parts of who they are can't really be changed. (EO2)	3.42	1.73
<b>Everyone, no matter who they are, can significantly change their basic characteristics. (reversed) (EO3)</b>	<b>3.83</b>	<b>1.78</b>
As much as I hate to admit it, you can't teach an old dog new tricks. People can't really change their deepest attributes. (EO4)	3.86	1.79
<b>People can always substantially change the kind of person they are. (reversed) (EO5)</b>	<b>3.83</b>	<b>1.70</b>
Everyone is a certain kind of person, and there is not much that can be done to really change that. (EO6)	3.14	1.70
<b>No matter what kind of person someone is, they can always change very much. (reversed) (EO7)</b>	<b>3.75</b>	<b>1.73</b>
<b>All people can change even their most basic qualities. (reversed) (EO8)</b>	<b>4.03</b>	<b>1.72</b>

Exploratory factor analysis yields a two-factor solution explaining 61.89% of the variance. Rotation shows that EO1-4 have the highest loadings on a single factor (Cronbach's  $\alpha$  for shortened scale = .78). The original scale is coded such that higher scores indicate stronger espousal of the self as fixed (vs. malleable). Because we use only reverse coded items in our main studies, higher scores on our short form scale indicate stronger espousal of the self as malleable (vs. fixed).

## A.2 Scales and Measures Used in the Main Studies

Social Comparison Orientation (response format: 7-point Likert scale; 1 = strongly disagree, 7 = strongly agree)	Study 1 Mean (SD) $\alpha = .70$	Study 2a Mean (SD) $\alpha = .79$	Study 2b Mean (SD) $\alpha = .76$	Study 3 Mean (SD) $\alpha = .76$
I often like to talk with others about mutual opinions and experiences.	4.87 (1.50)	4.73 (1.66)	5.26 (1.64)	5.17 (1.51)
I often try to find out what others think who face similar problems as I face.	4.36 (1.70)	4.24 (1.63)	4.96 (1.61)	4.59 (1.67)
I always like to know what others in a similar situation would do.	4.48 (1.60)	4.02 (1.78)	4.78 (1.76)	4.03 (1.75)
If I want to learn more about something I try to find out what others think about it.	4.30 (1.49)	3.86 (1.64)	4.31 (1.86)	4.00 (1.68)
Implicit Theories of the Self (response format: 7-point Likert scale; 1 = strongly disagree, 7 = strongly agree)		$\alpha = .79$	$\alpha = .89$	$\alpha = .83$
Everyone, no matter who they are, can significantly change their basic characteristics.	–	3.61 (1.90)	4.15 (1.87)	4.25 (1.82)
People can always substantially change the kind of person they are.	–	3.96 (1.93)	3.88 (1.79)	4.34 (1.86)
No matter what kind of person someone is, they can always change very much.	–	3.94 (1.89)	3.98 (1.76)	4.38 (1.78)
All people can change even their most basic qualities.	–	3.96 (1.81)	3.88 (1.67)	4.39 (1.66)
<b>Other Parent's Behavior</b>				
Please think of your friends, family members, or colleagues who have children and answer the following questions about these parents. In this context 0% means that the question does not refer to anybody in this group. 100% signifies that based on your evaluation the statement is true for all your friends, family members, or colleagues who have children.				
<i>Question: What percentage of your friends, family members, of colleagues who have children. . .</i>				
. . . would choose fries instead of salad or fruit.	–	60.0 (23.4)	–	–
. . . would choose soft drinks instead of water, milk, or juice.	–	62.3 (22.6)	–	–

## A.3 Experimental Manipulations (Studies 2b and 3)

### A.3.1 Study 2b: Fixed Theory

In his talk at the American Psychological Association's annual convention held at Washington, D.C. in August, Dr. George Medin argued that 'in most of us, by the age of ten, our character has set like plaster and will never soften again.' He reported numerous large longitudinal studies which show that people 'age and develop, but they do so on the foundation of enduring dispositions.' In addition to that he presented study results that show that all human personality is fixed from the age of ten and cannot be changed.

### A.3.2 Study 2b: Malleable Theory

In his talk at the American Psychological Association's annual convention held at Washington, D.C. in August, Dr. George Medin argued that 'no one's character is hard like a rock that cannot be changed. Only for some, greater effort and determination are needed to effect changes.' He reported numerous large longitudinal studies which show that people can mature and can change their character. He also reported research findings

showing that people's personality characteristics can be changed even in their late sixties.

### A.3.3 Study 3: Descriptive Social Norm

Well-known Professor Max Bachmann held a speech in front of students at Frankfurt University. In his presentation he presented an empirical research study showing that more and more parents place importance on giving their children healthy food. "Results from the study showed that 75% of all parents choose healthy drinks and food items for their children when visiting a fast-food restaurant," he said.

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