

What Happens When Parents and Children Go Grocery Shopping? An Observational Study of Latino Dyads in Southern California, USA

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Abstract

The objective of this study was to observe parent–child interactions in *tiendas*, limited assortment food stores catering to Latinos in the United States, and to examine the extent to which child involvement influenced these interactions and their purchase outcomes. Two confederates, one posing as a *tienda* employee and one posing as a customer, observed the entire shopping trip of 100 Latino parent–child (mean age = 8 years) dyads and coded the following: number and type of parent- and child-initiated request interactions, types of purchase influence attempts used by children and how parents responded, and whether the product was purchased. Level of child involvement was examined as a potential influencing factor on purchasing. The observations were relatively short (mean duration of 10 minutes), reflecting the “quick trip” nature of the observed shopping trips. From the 100 parent–child dyads, 144 request interactions were observed, and among dyads with at least 1 request interaction during the shopping trip, the average number of request interactions per dyad was 2. Children initiated most of the request interactions by asking for a product or simply placing it in the basket; parents initiated 24% of the request interactions. Child involvement in shopping and checkout were associated with spending and purchase outcomes. These results indicate that children and parents influence each other during grocery shopping, and children who are more involved have greater influence over purchases. Furthermore, this study identified a number of targets for future family/parent and consumer food environment interventions.

Keywords

grocery shopping, Hispanic/Latino, observations, parent–child dyads

Grocery shopping is a frequent behavior influenced by income, household size, the in-store environment, presence of children (Bawa & Ghosh, 1999), and race/ethnicity. Regarding the last two, compared with the U.S. population, Latinos make three times more grocery shopping trips per week (ConAgra Foods, 2011), co-shop more frequently and most often with children (Unilever, 2005), and are more likely to be influenced by children (ConAgra Foods, 2011).

When parents shop with children, there are many opportunities for parents and children to interact about food and beverage products, which determines what is purchased and consumed, and ultimately their weight status (Murphy, Ice, McCartney, Leary, & Cottrell, 2012). Children as young as 18 to 24 months attempt to influence their parents' grocery purchases (Buijzen & Valkenburg, 2008; Ebster, Wagner, & Neumueller, 2009; Flurry & Burns, 2005; Galst & White, 1976; Gaumer & Arnone, 2009; Nadeau & Bradley, 2012;

Williams & Burns, 2000) through the use of purchase influence attempts, including asking nicely, begging, and negotiating. Influential factors in the relationship between purchase influence attempts and purchase outcomes include child age (older vs. younger children's requests result in purchase more often; Atkin, 1978), co-shopping frequency (which can affect parents' refusal strategies and children's influence; Ebster et al., 2009), and child movement restriction (i.e., limiting the child's movement may reduce the number of

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products seen, reached, and requested; Ebster et al., 2009; Rust, 1993).

Regarding child age, theories of consumer socialization suggest that child influence changes as children age and acquire the skills and knowledge to operate as consumers in the marketplace (Carlson & Grossbart, 1988; John, 1999). Children in the earlier stage of consumer socialization (i.e., perceptual stage: 2-7 years old) may make more purchase requests, but the requests of those in the analytical and reflective stages (8-14 years old) result in more purchases (Buijzen & Valkenburg, 2008; Ward & Wackman, 1972). Older children have been observed to be more involved in decision making (Pettersson, Olsson, & Fjellstrom, 2004). Additionally, parents with higher versus lower incomes are more likely to purchase a requested item (Ebster et al., 2009) and parent- versus child-initiated request interactions result in purchase more often (Atkin, 1978; Buijzen & Valkenburg, 2008). Although parents readily acknowledge children's influence in grocery purchases, they consistently underestimate this influence (Ebster et al., 2009; Gram, 2010). Examining the extent to which these patterns hold for Latino families and in novel food environments such as *tiendas* (Emond, Madanat, & Ayala, 2012) can inform future interventions in this important consumer food environment (Gittelsohn, Laska, Karpyn, Klingler, & Ayala, 2014).

Finally, there is mixed evidence on how child involvement (e.g., the extent to which a child assists with a household task) is associated with purchasing and consumption. Research suggests that families with Latino mothers who are more authoritarian (vs. egalitarian) in their meal decision making and preparation had children who ate healthier (Arredondo et al., 2006). However, in other research, child involvement in food preparation was associated with eating more salad and more chicken, although also more calories (van der Horst, Ferrage, & Rytz, 2014). Child involvement was also associated with youth-reported preferences for fruits and vegetables (Chu et al., 2013). Finally, girls who were more involved in food shopping consumed more fried foods (Larson, Story, Eisenberg, & Neumark-Sztainer, 2006). Given these mixed findings, more research is needed on the influence of child involvement.

Present Study

This study examined the number of parent- and child-initiated request interactions that occurred for foods and beverages, the types of purchase influence attempts used by children and how parents responded, and whether the product was purchased. Differences by consumer socialization stage were also examined but limited to two socialization stages because of the small sample size. Finally, we extended previous research by examining the entire grocery shopping trip of Latino parent-child dyads in *tiendas* and exploring whether child involvement influenced the purchase behavior of the parent.

Method

Study Design

Two brief interviews and an unobtrusive observation were conducted with 100 Latino parent-child dyads during a single grocery shopping trip in one of three *tiendas*. *Tiendas* are a major source of food for Mexican origin populations in the United States (Ayala, Mueller, Lopez-Madurga, Campbell, & Elder, 2005), in part because they are more accessible in their communities than supermarkets (Lisabeth et al., 2010). The university's institutional review board approved all study protocols.

Tienda Recruitment

A previous study's criteria were used to select the *tiendas* (Ayala, Baquero, Laraia, Ji, & Linnan, 2013): (a) bilingual (English/Spanish) or Spanish-speaking employees, (b) Spanish-language advertising, and (c) products and/or brands targeting Latino customers. Store owners/managers of five potentially eligible *tiendas* (from an enumerated list) were approached; three agreed to participate, one refused, and one was dropped after consent and before any data collection occurred due to few customers with children. No formal remuneration was offered but a thank-you gift was given. The three *tiendas* had two to three cash registers, four to five walkways, shopping carts with child seats, and the following departments: produce, serviced meat, serviced prepared foods, and serviced bakery. Involving *tiendas* with similar characteristics helped minimize sources of variance that could affect parent-child interactions (e.g., as a function of product availability).

Dyad Recruitment

Trained research assistants (RAs) approached adult-child dyads as they entered the store to assess eligibility, obtain verbal consent, and conduct the interview with the adult. Privacy and confidentiality were maintained by identifying a location outside the store where the adult felt comfortable responding to questions. RAs approached all adult-child dyads in which the child appeared to be 2 to 16 years. This range was larger than the eligible age range of 3 to 14 years to prevent the exclusion of children who appeared older/younger than their actual age. All recruitment attempts, gender of adult and child, eligibility assessment, and, if applicable, reason for refusal were documented. Customers who were not approached because an assessment determined they were ineligible were recorded to assess generalizability.

Additional adult inclusion criteria were (a) at least 18 years old, (b) identified as Latino/Hispanic, (c) intended to purchase food products during visit, (d) parent shopping with his or her child who is between 3 and 14 years old, (e) lived with child at least 4 days/week, (f) spoke English or Spanish, and (g) had not participated previously. Verbal consent was obtained from the adult. To reduce potential bias arising from awareness of being observed, the consent script and fact sheet stated, "Observations are being conducted in the store to

Table 1. Child Purchase Influence Attempts: Frequency of Use at First Exchange Overall and by Consumer Socialization Stage, as Well as Overall Use.

Code	Operationalization	First exchange overall (<i>n</i> = 108); % (<i>n</i>)	First exchange perceptual stage (<i>n</i> = 60); % (<i>n</i>)	First exchange analytical/reflective stage (<i>n</i> = 48); % (<i>n</i>)	Overall use (<i>n</i> = 276); % (<i>n</i>)
Just asks	Makes a simple request or a demand	72.2 (78)	76.7 (46)	66.7 (32)	48.9 (135)
Placed item in cart	Nonverbal request, including putting items in cart or basket, handing to parent, or child carrying to cashier	17.6 (19)	6.7 (4)	31.3 (15)	13.0 (36)
Responds to parent	Parent-initiated the request interaction	N/A	N/A	N/A	13.4 (37)
Points/nonverbal	Simply points to an item, no verbalization	6.5 (7)	10.0 (6)	2.1 (1)	7.3 (20)
Begs and pleads	Repeatedly makes a request	1.9 (2)	3.3 (2)	0.0 (0)	5.8 (16)
Negotiates	Offers to do something in exchange for item requested. Negotiates for smaller/cheaper item	0.9 (1)	1.7 (1)	0.0 (0)	4.7 (13)
Asks nicely	Makes a polite request	0.9 (1)	1.7 (1)	0.0 (0)	1.8 (5)
Displays anger	Verbal (yelling) or nonverbal (kicking)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Other	Does not fit previously defined categories	0.0 (0)	0.0 (0)	0.0 (0)	5.1 (14)

Note. N/A = not applicable.

obtain information about store products and store customers, like yourself, to better understand shopping behaviors.” If a dyad was ineligible or refused, the RA approached the next potentially eligible dyad until a dyad was successfully recruited, at which point all recruitment activities ceased until the dyad completed the three study components. Consenting dyads received \$5 on completion of the second interview.

Procedures

First Interview. The 3- to 4-minute interview asked parents if they were the primary household food shopper (i.e., purchased at least 50% of the groceries), the purpose of the shopping trip (quick trip-general, quick trip-single meal, fill-in, or major stock-up), how often they shopped with this child (co-shopping frequency), monthly household income, and parent age, education, and employment.

Observation. Observations took place inside the *tienda*, beginning as soon as the dyad entered and finishing on exit. Although parents were informed that observations were occurring inside, in this study as in previous ones (Atkin, 1978; Gaumer & Arnone, 2009), observers strived to minimize reactivity. Based on previous research and pilot testing, it was decided that two observers per store, one posing as an employee and one as a customer, would be most subtle. Additionally, this allowed for reliability comparisons by co-coding a subset of interactions. A structured observation instrument was used to minimize observer drift (Rust, 1993).

Coding began whenever a child requested or a parent offered a food or beverage product. The product name or category was coded (open ended). Next, the request interactions were coded; specifically, the conversation between the

parent and child regarding a desired or offered item. Each interaction was made up of a series of exchanges where a single back-and-forth (a statement and its response) was considered one exchange. Previous studies have examined single exchanges (Atkin, 1978; Ebster et al., 2009; Gaumer & Arnone, 2009; Nadeau & Bradley, 2012); however, interactions can go beyond a single exchange, particularly with persistent children determined to obtain a desired product. Thus, an innovative aspect of this study was capturing all exchanges to characterize the entire interaction about a product.

Child purchase influence attempts were coded using nine codes from previous studies (see Table 1; Ebster et al., 2009; Flurry & Burns, 2005; Isler, Popper, & Ward, 1979; Nadeau & Bradley, 2012; Williams & Burns, 2000). As parent-initiated interactions account for approximately 30% of purchase-related parent-child interactions (Atkin, 1978; Buijzen & Valkenburg, 2008; Gaumer & Arnone, 2009), a “responds to parent” influence attempt code was also created. The child was always coded first; thus, if the parent initiated the interaction, the child’s response was identified as “responds to parent.” In addition to verbal purchase influence attempts, codes were developed for nonverbal influence attempts (see Table 1; Pettersson et al., 2004). If a child used both verbal and nonverbal strategies, the verbalized strategy took precedence.

Seven parent response codes were developed based on previous studies (see Table 2; Atkin, 1978; Isler et al., 1979; O’Dougherty, Story, & Stang, 2006). “Select” and “wait” were added after pilot testing. Previous studies have found that parents may ignore or avoid children’s purchase influence attempts (Isler et al., 1979; O’Dougherty et al., 2006). However, an observer cannot determine whether a lack of reaction was intentional or the parent simply did not hear or see (in the case of nonverbal strategies) the child’s purchase

Table 2. Parent Responses to Children's Influence Attempts: Frequency of Use at First Exchange and Overall.

Code	Operationalization	First exchange (n = 108); % (n)	Overall usage (n = 249); % (n)
No reaction	No response either with silence or otherwise acting as though the request was not heard	24.1 (26)	21.3 (53)
Hard no	Refuses with no explanation or told to return item	22.2 (24)	15.7 (39)
Yes	Agrees to purchase, including nonverbal (nods)	13.9 (15)	22.5 (56)
Explanation	Nonconfrontational explanation, with or without no. Refuses, but suggests the item might be purchased at another time	16.7 (18)	12.4 (31)
Select	Open: From a general product category (e.g., "What chips do you want?"); Closed: From a finite number of options provided by parent (e.g., "Do you want plain or barbeque chips?")	11.1 (12)	14.5 (36)
Other	Does not fit previously defined categories	8.3 (9)	9.2 (23)
Wait	Stalls, either to manage requests or because occupied	2.8 (3)	1.2 (3)
Suggests other	Includes suggesting different size or quantity within product category. Excludes: Same product, but different brand	0.1 (1)	3.2 (8)

influence attempt. Thus, the code "no reaction" was used when a parent did not react or respond to a child's purchase influence attempt. Finally, nutrition- and/or health-related attempts were coded to determine if parents used education about healthy choices with their acquiescence or refusal.

Request outcome represented the final exchange in a request interaction. The request outcome was coded as "yes" if the parent or child agreed to a product purchase and/or if any of the following happened: the parent/child placed the item in the cart/basket or handed it to the other to place in cart/basket, the parent/child carried it for purchase or handed it to the other to carry for purchase. It was also coded as "yes" if the parent agreed nonverbally (e.g., nodded) to the item, but not the specific brand requested. Request outcome was coded as "no" if the parent refused to purchase the item or the child declined an item offered by the parent. When the parent had no reaction to the child's request (e.g., when a child placed an item in the cart and the parent did not react), the request outcome was coded as "no reaction." Product price was recorded when the observer could clearly identify the item that was being purchased (by brand and size). In addition to assessing the request outcome, observers determined whether the interaction resulted in an actual purchase. This additional step was important because a parent may agree to a request in order to appease the child in the moment but later remove it from the cart/basket.

Second Interview. On exiting the *tienda*, the parent completed a 1- to 3-minute interview that asked, among other questions, how much he or she spent overall, how many products were purchased because the child requested them, and the child and parent's country of birth and years living in the United States.

Postobservation. After the observation ended, the RAs coded the degree of the child's movement restriction for the majority of the trip: complete (carried or in a shopping cart or stroller), partial (leash or hand-holding), or none (walking around the store freely). Child involvement during the shopping trip was categorized into two groups: involvement in

shopping (e.g., fetching; yes/no) and/or involvement at checkout (e.g., placing items on checkout belt; yes/no).

Quality Assurance and Data Analyses

Interrater reliability was 89% between two observers for 11 observations. Data analyses in which the unit of interest was the dyad were run in SPSS and remaining analyses were run in STATA SE V11. Descriptive analyses were conducted on characteristics of the dyads, the shopping trips, the parent- and child-initiated request interactions, the purchase influence attempts used by children and how parents responded, and whether the product was purchased. Chi-square tests explored differences between children in the perceptual versus analytical/reflective consumer socialization stages on the number of request interactions observed and purchase outcomes. Next, *t* tests examined differences in request interactions, amount spent, and purchase outcomes by child involvement in grocery shopping and child involvement at checkout. Finally, *t* tests examined differences in the number of items purchased in response to child influence comparing parent-report and observed purchases.

Results

Dyad Recruitment

Figure 1 depicts our recruitment attempts and outcomes. Our final sample consisted of 100 dyads; from among the 104 eligible dyads, only 1 refused and 3 were dropped due to becoming ineligible after consenting (i.e., another adult joining dyad). Among those who refused to be screened, the most common reasons given were "don't have time/in a hurry" (43%) and "not interested" (26%). Among ineligible dyads, the most common reasons were child age (49%) and adults shopping with a child who was not their own or did not live with them 4 days per week or more (39%); in two thirds of these dyads, the adult was the grandparent.

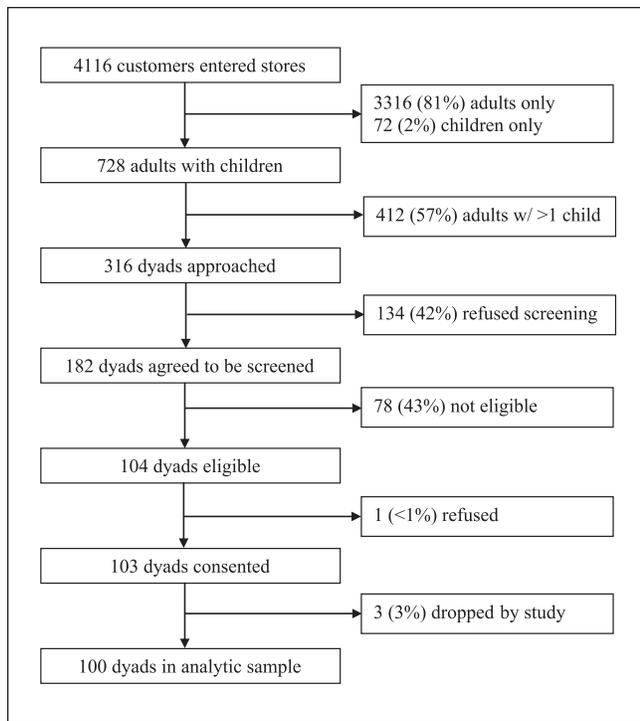


Figure 1. Dyad recruitment outcomes.

Dyad and Trip Characteristics

Forty-one percent of dyads reported a household income of less than \$2,000/month (see Table 3). Most adults were the main household food shopper, made two grocery shopping trips per week, including one with their child; more than two third reported always grocery shopping with their child(ren). The most and least common dyad makeups were mother–daughter and father–daughter, respectively. A majority of the trips were quick trips.

Request Interactions Observed: Child- and Parent-Initiated

Observations ranged from 2 to 55 minutes ($M = 10$ minutes). A total of 144 request interactions were observed, with a mean of 2 request interactions per dyad among dyads with at least 1 request interaction (see Table 4). One third of dyads did not have any request interactions. Children initiated 76% of the request interactions. Among dyads with request interactions, 60% had no parent-initiated interactions and 16% had exclusively parent-initiated interactions. The results indicate that children in the perceptual consumer socialization stage initiated more request interactions than children in the analytical/reflective stages (55% vs. 45%), while parents initiated more request interactions with children in the analytical/reflective stages than with children in the perceptual stage (63% vs. 37%; $\chi^2 = 3.40, p = .065$). When analyses were limited to the first request interaction for each dyad, using only independent observations, similar results were found (data not shown). The

Table 3. Child, Parent, Dyad ($N = 100$), and Trip Characteristics.

Characteristics	Percent (n) or mean \pm SD or median (range)
Child characteristics	
Female	49.0% (49)
Age (years)	7.9 \pm 3.4
Perceptual stage (3-7 years)	46.0% (46)
Analytical/reflective stage (>7 to 14 years)	54.0% (54)
Foreign-born (Mexico)	7.0% (7)
Years in United States (among foreign-born)	2.9 \pm 1.5
Parent characteristics	
Female	60.0% (60)
Age (years)	37.9 \pm 7.3
Up to high school graduate	55.0% (55)
Employed full-time or part-time	70.0% (70)
Monthly household income < \$2000	41.0% (41)
Foreign-born (Mexico)	66.0% (66)
Years in United States (among foreign-born)	19.2 \pm 12.2
Dyad characteristics	
Mother–daughter	36.0% (36)
Father–son	27.0% (27)
Mother–son	24.0% (24)
Father–daughter	13.0% (13)
Shopping characteristics	
Quick trip (vs. stock-up, special purpose) ^a	83.0% (43)
Dollars spent during observed shopping trip	\$21.06 \pm \$22.33
Grocery shopping days per week	2 (2-7 days/week)
Percent of parents who always shop with a child	70.0% (70)

^aData available from 52 dyads only because this question was added after data collection had commenced.

predominant language used was Spanish (48%) and 22% of requests were nonverbal. Only one request interaction contained a parent nutrition education attempt. The child consumed the product requested in-store in only a few cases. Because of missing data (e.g., products without a price sign), price information was available for only 50 request interactions. An average of \$2.37 ($SD = \2.11) was spent per request interaction, with the amount ranging from \$0.33 to \$9.49.

Child Purchase Influence Attempts and Parent Responses

Across the 144 request interactions, 276 child purchase influence attempts and 249 parent responses were observed and coded. The most common purchase influence attempt used by children in their first exchange with their parents was “just asks” (72%), followed by nonverbal behaviors, such as handing the product to the parent, placing it directly

Table 4. Characteristics of Parent–Child Request Interactions in Food Stores ($N = 100$).

Characteristics	Percent (n) or mean \pm SD or median (range)
Dyads with any request interactions	68% (68)
Average number of interactions across all dyads	1 \pm 1
Average number of interactions among dyads with at least one request interaction ($n = 68$)	2 \pm 1
Number of request interactions observed	144
Child-initiated request interactions	76% (109)
Parent-initiated request interactions	24% (35)
Language of request interaction ^a	
Spanish	48% (68)
English	29% (41)
Both	2% (3)
Nonverbal only	22% (31)
Exchanges per request interaction	2 \pm 1
Nutrition education attempt by parent	<1% (1)
No child movement restriction during interaction	92% (92)

^aOne case with missing data.

in the basket/cart, or carrying it to the cash register (18%) and pointing (7%; see Table 1). Furthermore, exploring purchase influence attempts during the first exchange only by consumer socialization stage suggested that a higher percentage of older children placed items directly in the basket/cart while a higher percentage of younger children used pointing (see Table 1). Parents' most common initial response was "no reaction" (24%), followed by hard "no" (22%) and an explanation (17%; see Table 2).

Purchase Outcomes

Parents agreed verbally or nonverbally to purchase the product in approximately half of the interactions (see Table 5). At checkout, decision to purchase increased to 58%, with "no responses" generally converting to a decision to purchase. The average number of items purchased as a result of a request interaction was one. Although not significant, parent-initiated requests were more likely to result in a purchase than child-initiated requests (66% vs. 56%). Request interactions initiated by children in the analytical/reflective stages resulted in purchase more often (65%) than those initiated by children in the perceptual stage (48%; $\chi^2 = 2.85, p = .091$). Exploring the first request interaction for each dyad, those initiated by children in the analytical/reflective stages resulted in purchase more often (73%) than those initiated by children in the perceptual stage (44%; $\chi^2 = 3.95, p = .047$). Co-shopping frequency and household income were not associated with purchase outcomes. Associations with child

Table 5. Outcomes of the Parent–Child Request Interactions Observed ($n = 144$).

Outcomes	Percent (n) or mean \pm SD or median (range)
Parental response to request interaction ^a	
Percent yes	52.1% (74)
Percent no	30.3% (43)
Percent no response	17.6% (25)
Parental purchase from request interaction	58.3% (84)
Number of items purchased per successful interaction	1 (1-2)
Amount spent per interaction ^b	\$2.37 \pm \$2.11

^aBased on 142 interactions, including parent-initiated interactions; two cases with missing data. ^bBased on 50 interactions in which the price was visible/available.

movement restrictions and trip type were not examined given the low variance in these factors.

Child Involvement

Two thirds of children assisted in shopping and almost half assisted at checkout. Dyads in which the child assisted (vs. did not assist) with shopping had a greater number of interactions (1.69 vs. 0.94, $p \leq .05$) and purchases (1.06 vs. 0.44, $p \leq .01$). For child-initiated request interactions, the number of interactions (1.26 vs. 0.74, $p \leq .05$) and purchases (0.77 vs. 0.32, $p \leq .05$) were greater when the child assisted with shopping. No differences emerged for parent-initiated interactions and purchases. Dyads in which the child assisted (vs. did not assist) with shopping spent more money during the shopping trip (\$25.01 vs. \$14.02, $p \leq .05$) and reported buying more products at the request of the child (1.65 vs. 0.65, $p \leq .05$).

For assistance at checkout, dyads in which the child assisted (vs. did not assist) had a greater number of purchases of requested items (1.08 vs. 0.63, $p < .05$), spent more money during the shopping trip (\$28.52 vs. \$14.38, $p < .01$), and reported buying more products at the request of the child (1.81 vs. 0.82, $p < .01$). Differences did not emerge for number of interactions, number of child- or parent-initiated interactions, or number of child- or parent-initiated purchases.

Perceived Child Influence

Parents' reports of number of items purchased in response to child influence were significantly different from those observed (1.29 vs. 0.95, $p \leq .05$). Despite this difference, in 60% of dyads the parent-reported items were concordant with the actual items purchased; 11% underreported and 29% overreported.

Discussion

Observations of Latino parent–child interactions while grocery shopping revealed that both parents and children had an

influence on purchase decisions. When children requested products, they were most likely to just ask or use nonverbal strategies, including placing the products in the cart (used more often by older children) or pointing to them on the store shelf (used more often by younger children). Parents' lack of reaction to child-initiated interactions supports the findings of O'Dougherty et al. (2006) that parents often use avoidance as a refusal strategy. On the other hand, parents' agreement to purchase (i.e., "yes" response) occurred less readily compared with previous studies (23% vs. 31% to 64% in other studies; Atkin, 1978; Buijzen & Valkenburg, 2008; Gaumer & Arnone, 2009; O'Dougherty et al., 2006). Furthermore, child involvement in shopping and during checkout was associated with almost double the amount spent and more products purchased at the child's request. This supports previous findings that child involvement can have an effect on what children may consume (Arredondo et al., 2006; Larson et al., 2006), warranting additional research for how to effectively teach children lifelong skills for healthy growth and development.

Although methodological factors may explain study results, culture contributes to the explanation (Arredondo et al., 2006; Hughes, Power, Orlet Fisher, Mueller, & Nicklas, 2005; Patrick, Nicklas, Hughes, & Morales, 2005). For low-income Latinos, food purchases provide a readily available opportunity to provide children with immediate gratification (Patrick et al., 2005). Latino parents are often considered indulgent, characterized by a lack of control over a child's diet (Hughes et al., 2005; Rodriguez-Oliveros et al., 2011), which is a barrier to healthy eating. Parents who are more indulgent are less likely to place restrictions on foods, which may explain why children are at increased risk of child obesity (Arredondo et al., 2006; Hughes et al., 2005). If an indulgent feeding style translates into parents readily agreeing to purchase requested items, then children may feel more confident in making requests (decision history) and the difference in purchase outcomes for parent- versus child-initiated interactions may be reduced. In addition, the value placed on parents' provision of gratification via food as an attainable pleasure may also result in more parents agreeing to children's requests regardless of income. Additional research is needed on the relationship between parent feeding styles and parent-child grocery shopping behavior.

The disparity between parent-reported and actual (observed) items purchased based on a request from the child confirms that self-reports are not an accurate representation of behaviors. However, contrary to previous research with non-Latino samples, parents overreported the number of items purchased at the child's request during the shopping trip. This departure may be due to not understanding the question or social desirability bias. The trend toward an indulgent feeding style may contribute to this overestimation. If parents value providing gratification via food, then they may be more likely to present themselves as having purchased several items at their child's request. Irrespective, the discrepancy between parent report and observed behavior highlights the importance of observational research.

Limitations

Our approach introduced limitations. For example, including demands (e.g., "I want ice cream.") in the "just asks" purchase influence attempt code did not allow for a comparison between asking and demanding. We sought to avoid subjective interpretations of observed interactions. Second, 41% of the items did not have a price sign, limiting our analyses of cost as a moderator in the interaction-outcome relationship. A previous study found that parents were more likely to purchase lower priced items (Ebster et al., 2009). Third, to reduce sources of variance, the study was limited to dyads with a parent and one child. Finally, other potential influential factors were not examined in this study given insufficient variance (e.g., proxies of acculturation such as years living in the United States) or because they were beyond the scope of this study (e.g., store factors such as product placement and location of request).

Implications

When grocery shopping, children influence purchases via their own attempts and by parent invitation. Evidence on the types of purchase influence attempts used by children suggests the need for parenting interventions that promote limit setting when grocery shopping, and being aware of how child involvement influences spending and purchase outcomes. Given the number of interactions observed during a single 10-minute shopping trip, a typical 30-minute shopping trip may involve six or more interactions. Thus, it is important to consider the impact that directing these interactions toward healthier food and beverage choices could have on dietary intake given the frequency with which people visit these stores (Ayala et al., 2015; Sanchez-Flack et al., 2016).

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