Take a deep breath: The effects of television exposure and family communication on family shopping-related stress

Matthew A. Lapierre
Department of Communication, University of Arizona, Tucson, AZ, USA
Marina Krcmar
Department of Communication, Wake Forest University, Winston-Salem, NC, USA
Eunjoo Choi
Department of Communication, University of Arizona, Tucson, AZ, USA
Kristen A. Haberkorn
Department of Communication, Wake Forest University, Winston-Salem, NC, USA
Sarah J. Locke
Department of Communication, Wake Forest University, Winston-Salem, NC, USA

Corresponding author:
Matthew A. Lapierre
Department of Communication
University of Arizona
P.O.Box 210025
Tucson, AZ 85721-0025
Phone: 1 (520) 626-5512
Email: mlapierre@email.arizona.edu

Biographical notes:

Matthew A. Lapierre (*PhD*, University of Pennsylvania) is an assistant professor in the Department of Communication at the University of Arizona. His primary research focuses on the way media affects children's health and well-being with a specific focus on persuasive communication. His secondary research interests include examining how parents make health focused decisions for their children and how child development affects consumer behavior.

Marina Krcmar (*PhD*, University of Wisconsin-Madison) is a professor at Wake Forest University. Her research focuses on how children and adolescents use and are affected by media. Recent work has focused on video games and other entertainment media as they relate to moral reasoning. Additional research examines the effects of media targeting very young children. She has published 2 books, as well as many chapters and journal articles on these topics.

Eunjoo Choi (*M.A*., University of Arizona) is a doctoral student in the Department of Communication at the University of Arizona. Her research interests include children and media, with a particular focus on parenting practices and children's consumer socialization.

Kristen Haberkorn (*B.S.*, Winthrop University) is a graduate student in the Department of Communication at Wake Forest University. Her research interests include family communication, interpersonal communication and media.

Sarah J. Locke (*B.S.*, Illinois State University) is a graduate student in the Department of Communication at Wake Forest University. Her research interests include interpersonal communication, especially regarding health and media effects.

Word Count: 8961

Disclosure Statement: The authors do not have any conflicts of interest to disclose.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author, MAL, upon reasonable request.

Take a deep breath: The effects of television exposure and family communication on family shopping-related stress

Abstract

Parents (n=433) of children (age 2-12) participated in this study examining the influence of children's television exposure on parent-reported child-initiated purchase requests and coercive behaviors and their subsequent effect on overall parental stress, a factor associated with reduced well-being. Using a general family systems framework, and Family Communication Patterns (FCP, Meadowcroft 1986), we also examined how these consumer oriented communication patterns could help or harm family interactions and ultimately, parent stress. Results indicated that increased child television exposure was associated with increased child-purchase initiations and consumer related coercive behavior. Additionally, child coercive behavior and child purchase initiation was then associated with increased parental stress, which has a well-documented impact on both physical and emotional parent well-being. Lastly, increased collaborative communication had an exacerbating direct effect on parent stress; whereas, parents who engaged in more control oriented and advertising communication had children who were more likely to ask for more products and exhibit more coercive behaviors. Finally, the link between television exposure and coercive behavior was weaker in homes where parents engaged in more advertising focused communication. Thus, advertising can directly and indirectly influence parent stress; however, effects can be mitigated through constructive parental communication with children.

Introduction

Family purchase decisions are frequently influenced by children, with a marked increase in this practice over the past few decades (Consoli 2018). This growing influence has occurred for several reasons including cultural changes in parenting norms and increased marketing that directly targets children across a growing number of media platforms/environments. Marketing to children does serve some benefit as it helps to socialize them as consumers and informs them about products (John 1999). Not surprisingly, the outcome of this marketing is not only associated with increased consumer influence among children (White 2013), but increased point-of-purchase product requests by them (Buijzen and Valkenburg 2008), which has been shown to result in parental stress (Ebster, Wagner, and Neumueller 2009). Whereas the socialization of children into consumers can be argued to be either a net benefit or net deficit, depending on perspective, the parental stress resulting from shopping trips with children is more decidedly a negative outcome (Neece, Green, and Baker 2012; Nelson et al. 2009). However, no research has examined the link between advertising exposure, parent-child communication about product purchases and ultimately, parent stress as an outcome. If parent-child communication, outside influences (e.g., advertising), and parental emotional responses interact as a system within the family, it seems likely that child advertising exposure may be related to parent stress, by way of parent-child consumer interactions. Ultimately, then, at least in the case of parent stress, we might conclude that advertising directed at children has adverse effects on parent well-being.

Several studies have examined the effect of media on parent-child consumer interactions (see McDermott et al. 2006 for a review). For example, Buijzen and Valkenburg (2008) found that child age and television viewing influenced the frequency and types of influence attempts used by children, and this has been supported by other research (see Krcmar et al. 2017).

Whereas these studies do provide a link between children's exposure to advertising and problematic parent-child exchanges in a shopping environment, they did not examine the ways in which parent communication might influence the trajectory of these interactions nor did they explore parental emotional responses. In addition, children's speech acts have been linked, in other research, to parent stress (Kapoor 2011). Decreasing and controlling parental stress, and stress in general is crucial, as stress has been linked to decreases in mental and physical well-being (Adler and Matthews 1994).

The current study used a survey design of 433 parents to explore parent-child communication, shopping behaviors and parent stress. Overall, a general systems approach was used to argue that television and family communication are part of a larger family system and that Family Communication Patterns (FCP), as well as television exposure, can influence specific parent-child interactions about product purchases and any resulting parental emotional outcomes. Specifically, we examined how an FCP theoretical framework (Austin, Roberts, and Nass 1990), particularly the dimensions of control, collaboration and advertising oriented communication can moderate any effects of children's advertising exposure on consumer related interactions in the family and ultimately, parent stress. In doing so, we examined how advertising exposure and parent-child communication influence parental well-being.

Family Systems and the Media Environment

Systems theory. Systems theory was originally applied to biological systems (Von Bertalanffy 1972) in order to understand how complex systems might adapt to environments and changes within the system. One of the most basic premises of systems theory is that in order to understand any system, the whole system must be considered. Since its inception, systems theory has been applied to diverse systems including engineering applications, businesses, and human

systems (Bateson et al. 1956). Like other systems, families are related to one another through some regular interaction; they are interdependent and exhibit some coherent behavior as a result. A system is open to and interacts with its environments, including information in the environment (Bochner and Eisenberg 1987). Thus, one aspect of family systems is their interaction with the *media* environment, and their response to it. Advertising is often a specific aspect of the media environment. Children's exposure to it, as well as the concomitant effects of exposure (e.g., Buijzen and Valkenburg 2008), can then interact with the remainder of the system including parent-child interaction patterns (c.f. Family Communication Patterns, Koerner and Fitzpatrick 2002b), and resulting parental emotional responses (e.g., stress, Nelson et al. 2009). Furthermore, within that system, parent-child communication strategies can serve to moderate parent stress (Van Der Kaap-Deeder et al. 2019).

Television Exposure, Advertising, and Children's Consumer Behavior

Although media content is moving to online formats, research shows that television still serves as an important medium regarding child exposure to advertising messages. For instance, Speers and colleagues (2011) conducted a study on product placement in prime-time television shows. According to the study, prime-time television programs included a considerable amount of brand exposure to children. Thus, although linear television use is surely decreasing, television remains a crucial source that marketers employ to reach out to customers.

Furthermore, research shows that American children are exposed to approximately 11 minutes of advertisements per hour as well as product placement and embedded advertising via television viewing (Rideout 2014) and television remains the medium that children spend the most time with (Rideout 2017). Research spanning decades has shown a significant association between children's television exposure and purchase requests (Galst and White 1976; Buijzen

and Valkenburg 2008). Thus, as an important element of the family system that can exert influence on others in the system (Krcmar 2009), television appears to influence instances of parent-child communication. Therefore, the present study measured children's exposure to television as a proxy for advertising exposure and proposes the following:

> **H1a:** Increased television exposure will be positively associated with increased purchase initiation for children.

It is also likely that television exposure would affect coercive consumer behavior among children. Several studies indicate that not only do children initiate purchases at the store, but when these requests are denied, children's coerciveness and negativity increases (Buijzen and Valkenburg 2003a; Henry and Borzekowski 2011). At its most extreme, children can show a high degree of coerciveness when they face request-denial, including tantruming behavior (Henry and Borzekowski 2011). As such, it is likely that increased advertising exposure is associated with increases in children's coercive consumer behavior (e.g., arguing, whining):

> **H1b:** Increased television exposure will be associated with increased consumer related coercive behavior in children.

Child Consumer Behavior and Parental Stress

Ultimately, this research seeks to examine the outcome of parental stress as part of the larger family system. As discussed above, research shows that children tend to show coercive behaviors during family shopping trips when their requests are declined by parents. Shopping with children is a recurring part of family life but is often described as "exhausting" and "stressful" due to children's behavior (Pettersson, Olsson, and Fjellström 2004). Given the frequency of purchase initiations (e.g., McNeal (1992) reported approximately 15 per shopping trip, although there is likely considerable variance based on context- Page et al. 2019) and that about half of these are denied, it is reasonable to conclude that increased parental stress is a

likely outcome, particularly for parents of younger children (see Kapoor 2011). As part of the family system, children's consumer behavior (i.e., purchase initiation, coercive behavior) could be stressful in the moment and lead to overall stress in parents:

H2a: Child purchase initiation will be positively associated with parental stress.

H2b: Child consumer coercive behavior will be positively associated with parental stress.

Parent-Child Communication

One aspect of the family system that was of concern for the current study was parent-child communication, particularly consumer related communication. Family Communication Patterns (FCP) offers one way of assessing general family communication and attitudes toward family communication (Krcmar 1996; Meadowcroft 1986). Utilizing this theoretically and empirically supported approach (e.g., Koerner and Fitzpatrick 2002a) as a way to study communication within the family system allowed us to examine broad family communication rather than specific interactions regarding media. Unlike mediation typologies (e.g., active, restrictive, co-viewing, see Nathanson 2001 for a review) which explore how parents deal with media for their children, the FCP broadly considers communication in the home and influences parent-child dynamics about everything from rules, nurturing communication, and other activities. Thus, it is well-suited to measuring communication within the larger family system.

The FCP approach identifies two dimensions of family communication: communication orientation and control orientation. Communication orientation refers to the degree to which families create a collaborative climate where all family members are encouraged to communicate freely about many topics. Families who score high on this dimension exhibit frequent and expressiveness interaction. Generally, adequate levels of open and collaborative communication are considered to be an important aspect of a well-functioning family life (Koerner and

Fitzpatrick 2002b). On the other hand, families who are high on the control dimension generally place a great deal of emphasis on obedience and uniformity in behavior. Interactions serve to enforce the desired behavior in other members of the family by focusing on conformity and minimizing conflict. Families who are low on the control dimension encourage individuality and allow each family member to form unique opinions. These families encourage independence and do not focus on hierarchical family structures (Koerner and Fitzpatrick 2002b).

The dimensions of communication and control are linked to actual communication behaviors (Ritchie and Fitzpatrick 1990; Koerner and Fitzpatrick 1997, 2002a), showing a connection between parent and child *perceptions* of family communication and communicative behaviors themselves. In order to explain this link, Koerner and Fitzpatrick (2002a) argue that relational schemas are the result of past and ongoing interpersonal interactions that create memories from which individuals draw relational knowledge. As such, there is a transactional relationship between relational schemas and communication behavior. Measuring behavioral perceptions and attitudes, as the FCP does, therefore can be seen as both emerging from and predictive of communicative behavior. Therefore, measuring perceptions can not only assess family members' understanding of social relationships in the family (i.e., unobservable relational schema) but can assess directly observable communication and control behaviors. In sum, the FCP's focus on the cognitive and subsequent behavioral activities of the communicator, as well as their application of general schema theory as a means of linking cognitive to behavioral outcomes, provides a theoretical grounding for the FCP measure in situations where communicative behavior is being explored.

Consistent with this model, Austin and colleagues (1990) found that children who perceived their families as "high communication" had families who talked more about television.

In fact, collaborative family communication is related to greater interaction between parents and children (Krcmar 1996; Meadowcroft 1986), suggesting that family communication about advertising and media is likely related to the broader family system.

Recent research has suggested that family communication patterns about purchases occur both in and outside of the retail environment (Krcmar and Lapierre 2018), are orthogonal to general communication orientation (Krcmar and Lapierre 2018) and that these interactions can moderate the effects of advertising (Bijmolt, Claassen, and Brus 1998; Buijzen 2009). In related research, open family communication about advertising, defined as *mediation* of television, can also lessen the effects of advertising on children. For example, parent mediation of advertising serves to improve children's understanding of advertising (Bijmolt, Claassen, and Brus 1998); lessen the effects of advertising on children's materialistic beliefs and attitudes (Chakroff 2008); and decreases children's consumption of unhealthy advertised foods (Buijzen 2009). Therefore, parents who talk to their children collaboratively aid in developing consumers who are more knowledgeable and less influenced by advertising:

> **H3a-b:** Collaborative-oriented consumer communication will moderate the link between television exposure and a) child purchase initiation and b) child coercive behavior as increased collaborative consumer communication will weaken the link between television exposure and purchase initiation/coercive behavior.

It is also likely that collaborative styles of family communication enable parents to more skillfully manage the stress followed by negative purchase initiation strategies. After all, open and positive parent-child communication is associated with more positive relationships (Seginer, Vermulst, and Gerris 2002) and less parenting stress (Ponnet et al. 2013). Thus, although these studies did not investigate levels of parental stress associated with family shopping trips, these findings suggest that open and collaborative parent-child communication style can moderate parent stress:

> **H4a-b:** Collaborative-oriented consumer communication will moderate the link between a) child purchase initiation and b) child coercive behavior on parent stress as increased collaborative communication will weaken the link between purchase initiation/coercive behavior and parent stress.

In addition to collaborative (i.e., high) communication, control-oriented parents believe that the power differential between parents and children should limit children's consumer participation (Krcmar and Lapierre 2018), and perhaps restrict access to commercial media. Of interest in the current study was how this type of orientation moderates the link between television exposure, consumer behavior and parent stress. Research suggests that this kind of communication orientation will have differential effects for each of these links.

Regarding the moderating effect of control orientation on the link between television exposure and consumer behavior, parents who engage in more control communication are likely to be more authoritarian in their parenting and generally more restrictive (Krcmar and Lapierre 2018). As such, we expected that as television exposure increases, children whose family system emphasizes control will initiate fewer purchases and use less coercive behavior:

> **H5a-b:** Control-oriented consumer communication will moderate the link between television exposure and a) child purchase initiation and b) child coercive behavior as increased control communication will weaken the link between television exposure and purchase initiation/coercive behavior.

Conversely, when we look at the link between consumer behavior and the outcome parental stress within the family system, we expected that parent control orientation will make these links stronger. Specifically, control oriented parents are less likely to yield to children's purchase initiation (Wisenblit, Priluck, and Pirog 2013), leading to greater negativity and likely greater parental stress:

> **H6a-b:** Control-oriented consumer communication will moderate the link between a) child purchase initiation and b) child coercive behavior on parent stress as increased control communication will strengthen the link between purchase initiation/coercive behavior and parent stress.

Although the original FCP did not address communication regarding purchase intentions, per se, the television mediation approach has done so. This perspective identifies three styles of television mediation: parents might restrict and control access to media, they might socially co-view media with their children or they might actively comment on and discuss content with their children. Using this perspective, Buijzen and Valkenburg (2005) found that actively mediating advertising was effective in reducing the influence of advertising. Further, family communication in general, and parent mediation of media exposure in particular, was considered the most effective tool in the management of advertising influence on children, with active discussion being the most beneficial form of mediation (see Buijzen 2014).

Given that we see parent-child communication in general, and communication regarding specific issues such as media and advertising, as part of the family system we predicted that advertising-communication would serve to moderate the links discussed earlier. From a systems perspective (Brown 1999), a family system includes family members, outside influences that become part of family interaction such as media and television, and any emotional outcomes derived in the system (e.g., parent stress). Moreover, because family systems are interactive and iterative, we predicted that both the link between advertising exposure and parent-child in-store interactions, and the link between those interactions and parent stress, are likely to be moderated by discussing advertising. Consistent with Buijzen's (2009) findings:

> **H7a-b:** Advertising-oriented communication will moderate the link between television exposure and a) child purchase initiation and b) child coercive behavior.
> **H8a-b:** Advertising-oriented communication will moderate the link between a) child purchase initiation and b) child coercive behavior on parental stress as increased advertising communication will weaken the link between purchase initiation/coercive behavior and parent stress.

Method

Participants

The sample was recruited from Amazon MTurk as part of a larger study conducted by the first two authors (Krcmar and Lapierre 2018). To participate, respondents had to have at least one child between the ages of 2 to 16. If a parent reported that they had more than one child in the home in this range, they were directed to choose the child with the next birthday. To ensure adequate gender representation, there was a quota for the number of male participants set at 125 fathers.

For the current study, we limited the age range to younger children because they generally have less independent purchase power and spend more time in retail environments with parents. The resulting age range (2-12) is crucial because children experience many changes during this time, particularly in how they communicate with their parents about consumer goods (see Valkenburg and Cantor 2001). This left us with 433 participants from the initial sample, with 78% (n = 341) reporting that they were the child's mother (or mother figure; n=92 fathers). The average age of parents in the sample was 32.9 years (SD = 6.81).

Measures

The following variables were included in the hypothesized models. Means, standard deviations, Cronbach's alphas, and zero order correlations are presented in Table 1.

Television exposure. Children's exposure was based on children's typical television exposure during the weekday and typical weekend. Their daily exposure was then computed by multiplying their weekday exposure by 5, their weekend by 2. Scores are presented in hours.

Parent-child consumer-related communication. Parent-child consumer-related communication was assessed using the Revised Consumer-related Family Communication Scale created by the authors (Krcmar and Lapierre 2018) and based on the original FCP. The scale was comprised of

25 items and asked parents how often they say certain things to their child regarding consumer-based conversations (1 = never to 5 = always). The measure consisted of three subscales. *Collaborative communication* explored how often the parent engages in communication with their child that seeks the child's input on consumer purchases for the family. This scale has 4-items with statements such as "I will listen to your advice on certain products or brands." *Control communication* used 6-items that focus on how often parents exhibit control in parent-child consumer-related interactions. Questions for this scale included "Don't argue with me when I say no to your product request".

Advertising communication measured how often the parents talked with children about advertising messages. The 6-item subscale included items such as "Commercials will say anything to get you to buy something".

Child purchase initiation. Based on earlier research (Krcmar and Lapierre 2018) parents were asked how often their child participated in three behaviors during shopping trips. These behaviors were "asking for a product", "demanding a product", and "touching or grabbing a product without asking the parent" (1 = never to 5 = always). These were summed to create a measure of children's purchase initiation.

Child coercive behavior. Based on past research (Krcmar and Lapierre 2018) parents reported how often their child engaged in eight specific coercive behaviors during shopping trips. The behaviors included "child behaves in a way that gets the negative attention of other shoppers", and "child engages in an argument with you about a purchase" (1 = never to 5 = always). These were summed to create the measure.

Parent stress. Based on the Parental Stress Scale (Berry and Jones 1995), this scale has 18 total items and asks parents how much they agree (1 = strongly disagree to 5 = strongly agree) with

statements such as “Caring for my child(ren) sometimes takes more time and energy than I have to give.” and “I feel overwhelmed by the responsibility of being a parent.” Responses across all items were then averaged.

Covariates

Because *child age* is often associated with consumer behavior (see Valkenburg and Cantor 2001) it was included as a covariate in all models. *Parent-child shopping frequency* was also controlled for in all models as parents were asked how frequently their child accompanied them on shopping trips (1 = never to 5 = always). Lastly, family income was included in all models. Participants were asked to report on their family income, answered on a scale from 1 (less than $20K) to 9 (more than $160K) at increments of $20K.

Analysis

The general modeled relationships are depicted in figure 2. All models were tested using a moderated mediation model with 5,000 bootstrapped samples (PROCESS model 58) by Hayes (2017). For these models, television exposure was included as the independent variable and parental stress was the dependent variable. The first set of models included child purchase initiation as the mediator; the second set of models included child coercive behavior as the mediator. Each of these models was tested with one of the dimensions from the parent-child communication scale (collaborative communication, control communication, advertising communication) as a moderator, resulting in six total models.

Results

Child Purchase Initiation as Mediator

Collaborative Communication

The first of the moderated mediation models tested H1a which predicted a positive relationship between child television exposure and parental stress, mediated by child purchase initiation, and tested H3a which predicted a moderating effect of collaborative-oriented communication. The initial model predicting child purchase initiation was significant ($R = 0.234$, $R^2 = 0.055$, $F(6, 426) = 4.077$, $p < 0.001$). Of the main effects, only television exposure was a significant and positive predictor of child purchase initiation (see Table 2 for full results with child purchase initiation as mediator). There was no relationship between collaborative-oriented communication and purchase initiation. Thus, we found support for H1a but did not find support for H3a.

The next step in the model predicting parental stress was significant ($R = 0.402$, $R^2 = 0.162$, $F(7, 425) = 11.706$, $p < 0.001$) and all main effects were significant. Child purchase initiation was associated with more parent stress, supporting H2a; however, increased collaborative communication was linked with *less* parental stress. Interestingly, the effect of television exposure was also linked with less parent stress in this model. The interaction effect of purchase initiation and collaborative-oriented communication was also significant; however, the findings were contrary to what we expected. In general, collaborative communication decreased parent stress unless it was preceded by purchase requests. Specifically, parents who employed more collaborative-oriented communication reported *less* parental stress yet, the relationship between *purchase initiation* and parent stress was *stronger* for parents who used this type of communication (see figure 2A). As such, hypothesis 4a is not supported. Finally, the tests of indirect effects of television exposure on parental stress through child purchase initiation for varying values of collaborative communication orientation was significant for each of these values (Table 4).

Control Communication

The second moderated mediation model examined the effect of control-oriented communication, to determine whether control orientation mitigates the effects of television exposure on purchase initiation and purchase initiation on parental stress. The model predicting child purchase initiation was significant ($R = 0.366$, $R^2 = 0.134$, $F(6, 426) = 10.981$, $p < 0.001$). Both children's television exposure and control communication orientation were associated with more child purchase initiation but their interaction term was not significant. Thus, both television exposure and control orientation increased purchase initiation, but there was no mitigating effect for control communication on the relationship between exposure and purchase initiation (H5a).

The model predicting parental stress was significant ($R = 0.375$, $R^2 = 0.140$, $F(7, 425) = 9.096$, $p < 0.001$). Neither control communication orientation nor the interaction term of control communication and child purchase initiation were significant, thus H6a was not supported. The last test explored the indirect effects of television exposure on stress through child purchase initiation for different levels of control communication orientation and results were nonsignificant (Table 4).

Advertising Focused Communication

The third moderated mediation model included advertising-focused communication as the moderator. Our initial test predicting child purchase initiation was significant ($R = 0.275$, $R^2 = 0.076$, $F(6, 426) = 5.828$, $p < 0.001$). Once again, television exposure predicted child purchase initiation and there was a positive main effect of advertising communication on purchase initiation: Parents who talked with their children more about advertising had children who initiated more purchases. The interaction effect of television exposure and advertising communication was not significant (H7a).

The next step predicting parental stress was significant ($R = 0.379$, $R^2 = 0.144$, $F(7, 425) = 10.215$, $p < 0.001$). Advertising communication was a marginally significant positive predictor of parental stress; however, the interaction term was not significant, showing no support for H8a. As shown in table 4, the results further teased apart this indirect effect of television exposure on parent stress through child purchase initiation. The effect is significant and positive with the exception of parents who had higher scores on advertising focused communication. Thus, higher levels of advertising communication may mitigate the effect.

Child Coercive Behavior as Mediator

Collaborative Communication

The first moderator tested was collaborative-oriented communication and the initial test predicting child coercive behavior was marginally significant ($R = 0.169$, $R^2 = 0.029$, $F(6, 426) = 2.259$, $p = 0.053$). Of the main effects, only television exposure was significantly associated with coercive behavior, thus supporting H1b. The interaction effect was not significant (H3b). Thus, more television exposure was linked to more coercive purchasing behavior, while collaborative communication did not affect this relationship (see Table 3 for full results with children's coercive consumer behavior as the mediator).

The next step in this moderated mediation model was significant ($R = 0.430$, $R^2 = 0.184$, $F(7, 425) = 13.375$, $p < 0.001$). We also found that each of the main effects along with the interaction term were significant. Specifically, both television exposure and collaborative-oriented communication were associated with *less* parental stress, while child coercive behavior was associated with increased parental stress, thus supporting H2b. Regarding the interaction term (see figure 2b), there was a significant effect, but this relationship ran counter to what was originally predicted. Specifically, although parents who reported using more collaborative

communication reported *less* parent stress overall, the relationship between child coercive behavior and parent stress was *stronger* for those higher on collaborative-oriented communication. Thus, collaboration can be more stressful when used in response to child coercive behavior. Lastly, as noted in table 4, the indirect effect of television exposure on parent stress via child coercive behavior was only significant in homes where parents engaged in a moderate amount of collaborative communication.

Control Communication

The second model testing child coercive behavior as a mediator included control communication as a moderator. The initial test predicting children's coercive consumer behavior was significant ($R = 0.338$, $R^2 = 0.114$, $F(6, 426) = 9.165$, $p < 0.001$). The main effect for control communication was significant as parents who engaged in more of this communication type reported more coercive consumer behavior in children. The main effect for television exposure was marginally significant. The interaction effect was not significant thus H5b is not supported.

The second regression predicting parental stress was significant ($R = 0.400$, $R^2 = 0.160$, $F(7, 425) = 11.564$, $p < 0.001$). There were two significant main effects. Television exposure was associated with less parent stress; children's coercive consumer behavior was associated with more parent stress. The interaction term of coercive behavior and control-oriented parenting was not significant, thus H6b is not supported. The last test, examining the indirect effects of television exposure on parental stress, was only significant for parents who were at the midpoint for control-oriented communication (see table 4).

Advertising Focused Communication

The last test included advertising communication in the moderated mediation model. The first regression model was significant ($R = 0.257$, $R^2 = 0.066$, $F(6, 426) = 5.009$, $p < 0.001$). The

results showed that both main effects and the interaction effect were significant. Television exposure was positively associated with child coercive consumer behavior as was advertising focused communication for parents. Regarding the interaction effect (figure 2c), we see that in families with high levels of advertising focused communication, children's coercive consumer behavior is higher regardless of television exposure. However, in homes where advertising focused communication is low, the more a child is exposed to television, the greater their coercive behavior is. As such, these results suggest that advertising focused communication does weaken the relationship between television exposure and children's coercive behavior, thus supporting H7b.

The regression model predicting parental stress was also significant ($R = 0.398$, $R^2 = 0.159$, $F(7, 425) = 11.642$, $p < 0.001$), as both television exposure and child coercive behavior were significantly associated with parental stress, but advertising focused communication and the interaction term were not (H8b). The test of indirect effects of television exposure on parental stress via child coercive behavior was not significant for parents who engaged in the most advertising oriented communication with the child, (table 4).

Discussion

In order to explore the overall effect of advertising on well-being, the focus of this special issue, we spotlighted the effect of advertising on children's behavior and consequently, on parent stress, making the perhaps obvious argument that stress is a hindrance to well-being. In line with previous research (see Buijzen and Valkenburg 2003a), the current study found that children's television exposure increased child purchase initiations and children's consumer related coercive behavior (see table 5 for full summary of results). This lends further evidence to research that supports a relationship between television exposure and child consumer behavior. However,

other findings from the current study add to, rather than just support what we know. First, both increased purchase initiation and increased coercive strategies resulted in more parent reported *overall* stress. Given that stress can put physical and mental health at risk (Adler and Matthews 1994), it should be considered an overall well-being risk.

Second, *how* parents communicate within the family system may help or harm these relationships. For example, we found, contrary to our expectations, that collaborative-oriented communication strengthened the relationship between child purchase initiation/coercive consumer behavior and parent stress, perhaps because parents found these collaborative interactions coupled with child purchase initiations to add burden to the shopping experience. In addition to shopping, assessing goods, budgeting and minding children, parents now also engaged with them about purchases. No doubt some interactions about unrelated issues may add enjoyment to the trip; discussion of additional purchases may not.

In addition, we found that increased advertising communication among parents and children weakened the relationship between television exposure and children's coercive consumer behavior, indicating that discussing advertising specifically with children is likely an effective strategy. However, these moderating effects are only part of the story as we also found that each type of parent-child communication was directly associated with children's consumer behavior and/or parent stress. The results showed that collaborative-oriented communication was a direct negative predictor of parent stress and that control-oriented and advertising communication were both associated with increases in children's consumer behavior. Thus, it appears that simply using a collaborative style of communication regarding family purchases may not be helpful; indeed it seems to exacerbate stress, as does a directly controlling style. What seems effective, however, is directly communicating about advertising specifically.

Advertising Exposure, Consumer Behavior and Parent Stress

Television exposure has been consistently associated with problematic consumer behaviors in children (Buijzen and Valkenburg 2003a; Chamberlain, Wang, and Robinson 2006). These behaviors are likely demanding on parents' limited emotional resources while at the store and thus likely to negatively impact their well-being. The present investigation deepens our understanding by finding that children's exposure to advertising may be at least partly responsible for the stress of that experience, and interestingly, is linked to parental stress *overall* and not simply stress related to purchase initiation. This was true regardless of the income resources parents might have, as family income was used as a control variable in the models for this study.

The indirect effect of advertising on parent stress while shopping may be unsurprising. After all, parent-child conflict that emerges from purchase disagreements puts parents on edge. However, what is interesting, perhaps is that we measured *overall* stress, suggesting that the exacerbating factors studied here may have longer term consequences than just a given shopping trip. Alternately, request strategies and patterns of parent-child interaction within the family system that emerge as a result of advertising exposure may play themselves out in other situations, as well. This interpretation would suggest that advertising exposure may establish problematic patterns within the family dynamic that affect stress well beyond purchase-related interactions. Additional research is needed to determine how this ultimately affects the parent-child dyad as increased parental stress likely tests these bonds between parent and child and/or affects parenting practices (e.g., increased yelling, less patience). As such, future research should explore how consumer related parental stress ultimately affects on-going parenting practices and the parent-child relationship.

An additional consideration regarding these findings is the role that policy makers and the advertising industry should be playing. In particular, past research has shown that children under 12 are not fully capable of understanding the true intent of advertising, at least not at a level that adults are able to (Rozendaal, Buijzen, and Valkenburg 2010). Other research also suggests that younger children (i.e., children younger than 9), because of their less advanced cognitive and affective development, have a more difficult time engaging executive function, for example, in order to counter argue advertising messages and thereby minimize their effect (Lapierre and Rozendaal 2019). Although parenting behaviors may act as a buffer, given the overall stressors of daily life, it may be that policy makers and advertising/marketing industries should examine whether it is appropriate to use certain tactics with children (e.g., marketing characters; Roberto et al. 2010).

The Mitigating and Exacerbating Role of Parent Consumer Communication

Consistently, research demonstrates that the ways parents communicate with their children about media and advertising affects how their children react to these external forces. The current study is no exception. First, from a theoretical perspective, the present study lends additional support to the notion that an overall systems theory approach, as well as the FCP provide useful frameworks for understanding parent-child communication, particularly as it relates to communication about consumer issues in the family. Whereas past research has contrasted families who actively engage in family-dialogue with those who utilize a more controlling style, finding that higher communication orientation is related to greater interaction between parents and children about a variety of topics (Krcmar 1996; Meadowcroft 1986), more recent research has found that the picture is more nuanced (Bijmolt, Claassen, and Brus 1998; Buijzen 2009).

The findings related to both collaborative-oriented communication (i.e., higher communication orientation) and advertising communication highlight why a more nuanced understanding is warranted. With regard to collaborative-oriented communication, our results revealed that parents who engaged in this kind of communication reported less parental stress overall. However, the interaction tests between purchase initiation/coercive behavior and parental stress, showed that these relationships were stronger for parents who engaged in collaborative-oriented communication. One possible explanation for this pair of findings is that for parents who are more welcoming of child consumer input, the child feels more comfortable making purchase initiations and being more assertive with their requests which leads to parent stress. Conversely, in homes where parents do not welcome discussion, such conversations are limited which does not amplify the relationship between purchase initiation/coercive behavior and stress.

The interaction effect for advertising communication on the relationship between television exposure and coercive behavior did support our prediction as the relationship was not as strong for parents who engaged in more of this kind of communication compared to parents who reported less advertising communication. Yet, advertising communication was a positive predictor of both purchase initiation and coercive behavior in children. There are two possible explanations for this finding. It could be that parents who communicate more about advertising do so out of necessity as their children are more likely to talk with them about consumer products. On the other hand, parents may just be more focused on their child's consumer behavior and are acting on this perception. Nevertheless, because these conversations appear to be more routine in these homes, the potential effects related to increased television exposure may have less of an effect.

Lastly, the results for control-oriented communication did not align with our previous predictions. Instead, control-oriented communication was not only a direct predictor of children's consumer behavior, it was associated with *increased* purchase initiation and increased coercive behavior as well as parent stress. One potential explanation is that parents who engage in more of this kind of communicative strategy are actually responding to increases in their child's consumer behavior in a way that was similar to what we found regarding advertising focused communication which has been suggested in previous research (Wisenblit, Priluck, and Pirog 2013).

Limitations and Future Research.

There are three study limitations that need to be addressed. First, because we used survey methodology, we are unable to make definitive causal claims related to the study's findings. However, it seems unlikely that these relationships work in the opposite direction. Specifically, it is not clear how increased consumer behavior in children could subsequently influence children's media exposure or how parent stress could lead to more consumer behavior on the part of the child. The second limitation is that these findings are based entirely on parent report and recall. To be clear, there is a benefit to using this kind of methodology as it allows for larger samples (and increased statistical power) than more resource intensive methods. That said, research finds that higher stress in mothers specifically was related to higher rates of coercive and irritable behavior when dealing with their children (Patterson 1983). Perhaps parents' who experience more stress perceive their children as being more problematic since the parents themselves are irritable. Therefore, future research should employ additional methodologies to further validate these results. This research could include both parent and child report surveys (e.g., Buijzen and

Valkenburg 2003b) or surveys combined with parent-child observations (e.g., Krcmar et al. 2017).

The final limitation centers on the nature of the sample. There are obvious benefits to using MTurk samples as they make collecting data from large samples easy and at relatively low cost; moreover, the current study was able to sample parents from across the United States. These samples, however, are taken from a subset of the population that is not representative of the broader public which limits the generalizability of these findings (e.g., income). Future research should test these relationships with samples that better approximate the population of parents. Given the importance of stress in the family system, and its vital impact on well-being (Adler and Matthews 1994) this continues to be an important issue. After all, parental long term stress can cause many negative health and family interaction outcomes (Östberg and Hagekull 2000) and understanding the factors that contribute to that stress is therefore of vital importance.

References

Adler, Nancy, and Karen Matthews. 1994. “Health Psychology: Why Do Some People Get Sick and Some Stay Well?” *Annual Review of Psychology* 45: 229–59. https://doi.org/10.1146/annurev.psych.45.1.229.

Austin, Erica Weintraub, Donald F. Roberts, and Clifford I. Nass. 1990. “Influences of Family Communication on Children’s Television-Interpretation Processes.” *Communication Research* 17 (4): 545–64. https://doi.org/10.1177/009365090017004008.

Bateson, Gregory, Don D. Jackson, Jay Haley, and John Weakland. 1956. “Toward a Theory of Schizophrenia.” *Behavioral Science* 1 (4): 251–54.

Berry, Judy O., and Warren H. Jones. 1995. “The Parental Stress Scale: Initial Psychometric Evidence.” *Journal of Social and Personal Relationships* 12 (3): 463–72. https://doi.org/10.1177/0265407595123009.

Bertalanffy, Ludwig Von. 1972. “The History and Status of General Systems Theory.” *Academy of Management Journal* 15 (4): 407–26. https://doi.org/10.5465/255139.

Bijmolt, Tammo H.A., Wilma Claassen, and Britta Brus. 1998. “Children’s Understanding of TV Advertising: Effects of Age, Gender, and Parental Influence.” *Journal of Consumer Policy* 21 (2): 171–94.

Bochner, Arthur P., and E. Eisenberg. 1987. “Family Process: System Perspectives on Family Communication.” In *Handbook of Communication Science*, edited by Charles R. Berger and Steven H. Chaffee, 1st ed., 540–63. Thousand Oaks, CA: Sage Publications, Inc.

Brown, Jenny. 1999. “Bowen Family Systems Theory and Practice: Illustration and Critique.” *Australian and New Zealand Journal of Family Therapy* 20 (2): 94–103. https://doi.org/10.1002/j.1467-8438.1999.tb00363.x.

Buijzen, Moniek. 2009. “The Effectiveness of Parental Communication in Modifying the Relation between Food Advertising and Children’s Consumption Behaviour.” *British Journal of Developmental Psychology* 27 (Pt 1): 105–21.

———. 2014. “The Family’s Role in Children’s Interpretation of Advertising.” In *Advertising to Children*, edited by Mark Blades, Caroline Oates, Fran Blumberg, and Barrie Gunter, 137–57. London, UK: Palgrave Macmillan. https://doi.org/10.1057/9781137313256_8.

Buijzen, Moniek, and Patti M. Valkenburg. 2003a. “The Effects of Television Advertising on Materialism, Parent–Child Conflict, and Unhappiness: A Review of Research.” *Journal of Applied Developmental Psychology* 24 (4): 437–56.

———. 2003b. “The Unintended Effects of Television Advertising: A Parent-Child Survey.” *Communication Research* 30 (5): 483–503. https://doi.org/10.1177/0093650203256361.

———. 2005. “Parental Mediation of Undesired Advertising Effects.” *Journal of Broadcasting and Electronic Media* 49 (2): 153–65.

———. 2008. “Observing Purchase-Related Parent-Child Communication in Retail Environments: A Developmental and Socialization Perspective.” *Human Communication Research* 34: 50–69. https://doi.org/10.1111/j.1468-2958.2007.00313.x.

Chakroff, Jennifer L. 2008. “Mitigating the Unintended Effects of Advertising on Young Children: The Effectiveness of Parent-Administered Active Mediation.” In *International Communication Association*. Montreal.

Chamberlain, Lisa J., Yun Wang, and Thomas N. Robinson. 2006. “Does Children’s Screen Time Predict Requests for Advertised Products? Cross-Sectional and Prospective Analyses.” *Archives of Pediatrics and Adolescent Medicine* 160 (4): 363–68. https://doi.org/10.1001/archpedi.160.4.363.

Consoli, John. 2018. “Nickelodeon Study Affirms Kids’ Strong Influence on Family Purchasing Decisions.” Broadcasting + Cable. 2018. https://www.broadcastingcable.com/news/nickelodeon-study-affirms-kids-strong-influence-family-purchasing-decisions-113500.

Ebster, Claus, Udo Wagner, and Denise Neumueller. 2009. “Children’s Influences on in-Store Purchases.” *Journal of Retailing and Consumer Services* 16 (2): 145–54. https://doi.org/10.1016/j.jretconser.2008.11.005.

Galst, Joann Paley, and Mary Alice White. 1976. “The Unhealthy Persuader: The Reinforcing Value of Television and Children’s Purchase-Influencing Attempts at the Supermarket.” *Child Development* 47 (4): 1089–96. https://doi.org/10.2307/1128446.

Hayes, Andrew F. 2017. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. 2nd ed. New York, NY: Guilford Press.

Henry, Holly K. M., and Dina L. G. Borzekowski. 2011. “The Nag Factor: A Mixed-Methodology Study in the US of Young Children’s Requests for Advertised Products.” *Journal of Children and Media* 5 (3): 298–317. https://doi.org/10.1080/17482798.2011.584380.

John, Deborah Roedder. 1999. “Consumer Socialization of Children: A Retrospective Look at Twenty-Five Years of Research.” *Journal of Consumer Research* 26 (3): 183–213. https://doi.org/10.1086/209559.

Kaap-Deeder, Jolene Van Der, Bart Soenens, Elien Mabbe, Lisa Dieleman, Athanasios Mouratidis, Rachel Campbell, and Maarten Vansteenkiste. 2019. “From Daily Need Experiences to Autonomy-Supportive and Psychologically Controlling Parenting via Psychological Availability and Stress.” *Parenting* 19 (3): 177–202.

https://doi.org/10.1080/15295192.2019.1615791.

Kapoor, Neeru. 2011. “Children’s Understanding of Advertising and Developing Consumer Socialisation.” *International Journal of Arts & Sciences* 4 (12): 55–70.

Koerner, Ascan F., and Mary Anne Fitzpatrick. 1997. “Family Type and Conflict: The Impact of Conversation Orientation and Conformity Orientation on Conflict in the Family.” *Communication Studies* 48 (1): 59–75. https://doi.org/10.1080/10510979709368491.

———. 2002a. “Toward a Theory of Family Communication.” *Communication Theory* 12 (1): 70–91. https://doi.org/10.1111/j.1468-2885.2002.tb00260.x.

———. 2002b. “Understanding Family Communication Patterns and Family Functioning: The Roles of Conversation Orientation and Conformity Orientation.” *Communication Yearbook* 26: 37–69. https://doi.org/10.1207/s15567419cy2601_2.

Krcmar, Marina. 1996. “Family Communication Patterns, Discourse Behavior, and Child Television Viewing.” *Human Communication Research* 23 (2): 251–77. https://doi.org/10.1111/j.1468-2958.1996.tb00394.x.

———. 2009. *Living without the Screen: Causes and Consequences of Life without Television*. New York, NY: Routledge.

Krcmar, Marina, and Matthew A. Lapierre. 2018. “Revising a Measure to Assess Consumer-Related Family Communication Patterns.” *Young Consumers* 19 (1): 87–104. https://doi.org/10.1108/YC-07-2017-00718.

Krcmar, Marina, Matthew A. Lapierre, Adam Hoxie, and Jackson Colvett. 2017. “Observing Parent-Child Purchase Related Interactions in US-Based Retail Environments: Replication and Extension.” *Journal of Children and Media* 11 (3): 261–77. https://doi.org/10.1080/17482798.2017.1303524.

Lapierre, Matthew A., and Esther Rozendaal. 2019. “A Cross-National Study Examining the Role of Executive Function and Emotion Regulation in the Relationship between Children’s Television Exposure and Consumer Behavior.” *Journal of Youth and Adolescence* Online Fir: 1–25. https://doi.org/10.1007/s10964-019-01119-7.

McDermott, Laura, Terry O’Sullivan, Martine Stead, and Gerard Hastings. 2006. “International Food Advertising, Pester Power and Its Effects.” *International Journal of Advertising* 25 (4): 513–39. https://doi.org/10.1080/02650487.2006.11072986.

McNeal, James U. 1992. *Kids as Customers: A Handbook of Marketing to Children*. New York, NY: Lexington Books.

Meadowcroft, Jeanne M. 1986. “Family Communication Patterns and Political Development: The Child’s Role.” *Communication Research* 13 (4): 603–24. https://doi.org/10.1177/009365086013004005.

Nathanson, Amy I. 2001. “Mediation of Children’s Television Viewing: Working toward Conceptual Clarity and Common Understanding.” In *Communication Yearbook 25*, edited by William B. Gudykunst, 115–51. Mahwah, NJ: Lawrence Erlbaum Associates.

Neece, Cameron L., Shulamite A. Green, and Bruce L. Baker. 2012. “Parenting Stress and Child Behavior Problems: A Transactional Relationship across Time.” *American Journal on Intellectual and Developmental Disabilities* 117 (1): 48–66. https://doi.org/10.1352/1944-7558-117.1.48.

Nelson, Jackie A., Marion O’Brien, A. Nayena Blankson, Susan D. Calkins, and Susan P. Keane. 2009. “Family Stress and Parental Responses to Children’s Negative Emotions: Tests of the Spillover, Crossover, and Compensatory Hypotheses.” *Journal of Family Psychology* 23 (5): 671–79. https://doi.org/10.1037/a0015977.

Östberg, Monica, and Berit Hagekull. 2000. “A Structural Modeling Approach to the Understanding of Parenting Stress.” *Journal of Clinical Child and Adolescent Psychology* 29: 615–25. https://doi.org/10.1207/S15374424JCCP2904_13.

Page, Bill, Anne Sharp, Larry Lockshin, and Herb Sorensen. 2019. “Using the Eyberg Child Behaviour Inventory to Investigate Pester Power.” *Journal of Retailing and Consumer Services* 47: 265–71. https://doi.org/10.1016/j.jretconser.2018.12.004.

Patterson, Gerald R. 1983. “Stress: A Change Agent for Family Process.” In *Stress, Coping, and Development in Children*, edited by Michael Rutter and Norman Garmezy, 235–64. New York, NY: McGraw-Hill.

Pettersson, Anette, Ulf Olsson, and Christina Fjellström. 2004. “Family Life in Grocery Stores – a Study of Interaction between Adults and Children.” *International Journal of Consumer Studies* 28 (4): 317–28. https://doi.org/10.1111/j.1470-6431.2004.00389.x.

Ponnet, Koen, Edwin Wouters, Dimitri Mortelmans, Inge Pasteels, Charlotte De Backer, Karla Van Leeuwen, and Alain Van Hiel. 2013. “The Influence of Mothers’ and Fathers’ Parenting Stress and Depressive Symptoms on Own and Partner’s Parent-Child Communication.” *Family Process* 52 (2): 312–24. https://doi.org/10.1111/famp.12001.

Rideout, Victoria. 2014. “Advertising to Children and Teens : Current Practices.” *Common Sense Media*, 22. https://www.commonsensemedia.org/research/advertising-to-children-and-teens-current-practices.

———. 2017. “The Common Sense Census: Media Use by Kids Age Zero to Eight.” San Francisco, CA.

Ritchie, L. David, and Mary Anne Fitzpatrick. 1990. “Family Communication Patterns: Measuring Intrapersonal Perceptions of Interpersonal Relationships.” *Communication*

Research 17 (4): 523–44. https://doi.org/10.1177/009365090017004007.

Roberto, Christina A, Jenny Baik, Jennifer L Harris, and Kelly D Brownell. 2010. "Influence of Licensed Characters on Children's Taste and Snack Preferences." *Pediatrics* 126 (1): 88–93. https://doi.org/10.1542/peds.2009-3433.

Rozendaal, Esther, Moniek Buijzen, and Patti Valkenburg. 2010. "Comparing Children's and Adults' Cognitive Advertising Competences in the Netherlands." *Journal of Children and Media* 4 (1): 77–89. https://doi.org/10.1080/17482790903407333.

Seginer, Rachel, Ad Vermulst, and Jan Gerris. 2002. "Bringing up Adolescent Children: A Longitudinal Study of Parents' Child-Rearing Stress." *International Journal of Behavioral Development* 26 (5): 410–22. https://doi.org/10.1080/01650250143000355.

Speers, Sarah E., Jennifer L. Harris, and Marlene B. Schwartz. 2011. "Child and Adolescent Exposure to Food and Beverage Brand Appearances during Prime-Time Television Programming." *American Journal of Preventive Medicine* 41 (3): 291–96. https://doi.org/10.1016/j.amepre.2011.04.018.

Valkenburg, Patti M., and Joanne Cantor. 2001. "The Development of a Child into a Consumer." *Journal of Applied Developmental Psychology* 22 (1): 61–72. https://doi.org/10.1016/S0193-3973(00)00066-6.

White, Martha C. 2013. "American Families Increasingly Let Kids Make Buying Decisions." *Time*, April 2013. http://business.time.com/2013/04/11/american-families-increasingly-let-kids-make-buying-decisions/.

Wisenblit, Joseph Z., Randi Priluck, and Stephen F. Pirog. 2013. "The Influence of Parental Styles on Children's Consumption." *Journal of Consumer Marketing* 30 (4): 320–27.

Table 1: Means, Standard Deviations, Cronbach's Alphas and Zero Order Correlations for All Variables of Interest

	M	SD	α	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Child age	5.91	3.16		-.120*	.028	.048	-.115*	-.101*	-.117*	.223***	.038	.257***
2. Child shopping freq.	3.94	0.77			-.059	-.005	.076	-.023	-.198***	.205***	.066	.019
3. Family income	3.62	1.67				-.138**	-.043	.024	-.056	-.057	-.087+	-.035
4. Television exposure	2.56	2.74					.181***	.124*	-.064	.022	.151**	.101*
5. Child purchase initiation	9.05	2.50	0.74					.768***	.253***	-.002	.308***	.110*
6. Child coercive behavior	19.33	5.99	0.87						.302***	-.025	.299***	.130**
7. Parental stress	2.08	0.56	0.85							-.192***	.100*	.052
8. Collaborative comm.	2.76	0.84	0.76								.293***	.355***
9. Control comm.	3.00	0.87	0.82									.419***
10. Advertising comm.	2.71	1.10	0.92									

Note: ***p < .001; **p < .01; *p < .05; +p<.10

Table 2: Moderated-Mediation Regression Models Predicting Parent Stress with Child Purchase Initiation as Mediator by 3 Parent Communication Orientations (Collaborative, Control, and Advertising Communication)

	Collaborative Communication				Control Communication				Advertising Communication			
	Purchase initiation		Parental stress		Purchase initiation		Parental stress		Purchase initiation		Parental stress	
Variable	b	LLCI ULCI	b	LLCI ULCI	b	LLCI ULCI	b	LLCI ULCI	b	LLCI ULCI	b	LLCI ULCI
Constant	-0.189	-1.664 1.286	2.815***	2.505 3.126	-0.006	-1.369 1.358	2.959***	2.656 3.262	0.047	-1.370 1.464	2.979***	2.675 3.283
Family income	-0.010	-0.135 0.115	-0.025+	-0.051 0.002	0.015	-0.105 0.134	-0.021	-0.047 0.006	-0.004	-0.127 0.119	-0.021	-0.047 0.006
Child age	-0.098*	-0.174 -0.022	-0.013	-0.029 0.004	-0.106**	-0.177 -0.036	-0.021**	-0.037 -0.006	-0.125**	-0.200 -0.049	-0.025**	-0.041 -0.008
Shopping freq.	0.204	-0.106 0.514	-0.147***	-0.212 -0.082	0.146	-0.143 0.434	-0.174***	-0.239 -0.110	0.182	-0.116 0.480	-0.173***	-0.237 -0.109
TV exp	0.165***	0.078 0.253	-0.025**	-0.043 -0.007	0.130**	0.044 0.216	-0.025**	-0.043 -0.006	0.169***	0.084 0.255	-0.025**	-0.043 -0.007
Purch init			0.060***	0.040 0.080			0.055***	0.033 0.076			0.057***	0.036 0.077
Coll com	0.017	-0.274 0.307	-0.095**	-0.156 -0.034								
Cont com					0.814***	0.558 1.070	0.035	-0.025 0.094				
Adv com									0.308**	0.093 0.523	0.041+	-0.006 0.088
TV exp X Coll com	0.022	-0.080 0.124										
Purch init X Coll com			0.022*	0.001 0.043								
TV exp X Cont com					0.010	-0.078 0.099						
Purch init. X Cont com							0.002	-0.020 0.024				
TV exp X Adv com									-0.052	-0.126 0.022		
Purch init. X Adv com											-0.004	-0.021 0.012

Note: TV exp, television exposure; Purch init, purchase initiation; Coll com, collaborative communication; Cont com, control communication; Adv com, advertising communication; +p < 0.10; *p < 0.05; **p < 0.01, ***p < 0.001

Table 3: Moderated-Mediation Regression Models Predicting Parent Stress with Child Coercive Behavior as Mediator by 3 Parent Communication Orientations (Collaborative, Control, and Advertising Communication)

					Control Communication				Advertising Communication			
	Coercive behavior		Parental stress		Coercive behavior		Parental stress		Coercive behavior		Parental stress	
Variable	b	LLCI ULCI	b	LLCI ULCI	b	LLCI ULCI	b	LLCI ULCI	b	LLCI ULCI	b	LLCI ULCI
Constant	1.848	-1.743 5.440	2.747***	2.441 3.054	2.335	-0.976 5.647	2.905***	2.605 3.206	2.642	-0.778 6.062	2.913***	2.611 3.216
Family income	0.152	-0.152 0.455	-0.029*	-0.055 -0.003	0.213	-0.077 0.503	-0.025+	-0.052 0.001	0.169	-0.129 0.466	-0.026+	-0.052 0.001
Child age	-0.226*	-0.412 -0.041	-0.012	-0.028 0.004	-0.245**	-0.417 -0.074	-0.020*	-0.036 -0.005	-0.308**	-0.490 -0.126	-0.023**	-0.040 -0.007
Shopping freq.	-0.271	-1.026 0.484	-0.126***	-0.190 -0.061	-0.417	-1.118 0.284	-0.160***	-0.224 -0.096	-0.351	-1.071 0.368	-0.155***	-0.218 -0.091
TV exp	0.267*	0.055 0.479	-0.022*	-0.040 -0.004	0.194+	-0.015 0.402	-0.022*	-0.040 -0.004	0.274**	0.068 0.481	-0.022*	-0.040 -0.003
Coerc beh			0.029***	0.021 0.037			0.025***	0.016 0.034			0.026***	0.018 0.034
Coll com	0.014	-0.693 0.721	-0.090**	-0.150 -0.030								
Cont com					2.023***	1.401 2.645	0.037	-0.024 0.097				
Adv com									0.929**	0.410 1.447	0.034	-0.013 0.080
TV exp X Coll com	0.003	-0.246 0.251										
Coerc beh X Coll com			0.012**	0.003 0.020								
TV exp X Cont com					-0.061	-0.275 0.154						
Coerc beh X Cont com							0.007	-0.002 0.016				
TV exp X Adv com									-0.197*	-0.376 -0.017		
Coerc beh X Adv com											0.002	-0.005 0.008

Note: TV exp, television exposure; Coerc beh, Coercive behavior; Coll com, collaborative communication; Cont com, control communication; Adv com, advertising communication; +p < 0.10; *p < 0.05; **p < 0.01, ***p < 0.001

Table 4: Conditional indirect effects for television exposure on parental stress

Mediator	Moderator	Moderator Level	Effect	S.E.	LLCI	ULCI
Child purchase initiation	Collaborative communication	Low	0.007	0.005	0.000	0.020
		Medium	0.010	0.004	0.004	0.020
		High	0.014	0.007	0.002	0.028
	Control communication	*Low*	*0.006*	*0.006*	*-0.001*	*0.022*
		Medium	0.007	0.004	0.002	0.016
		High	0.008	0.005	0.000	0.019
	Advertising communication	Low	0.016	0.009	0.002	0.034
		Medium	0.009	0.004	0.003	0.017
		High	*0.006*	*0.005*	*-0.001*	*0.017*
Child coercive behavior	Collaborative communication	*Low*	*0.005*	*0.005*	*-0.001*	*0.018*
		Medium	0.008	0.004	0.002	0.019
		High	*0.012*	*0.007*	*-0.001*	*0.028*
	Control communication	*Low*	*0.005*	*0.005*	*-0.001*	*0.019*
		Medium	0.005	0.004	0.000	0.014
		High	*0.006*	*0.006*	*-0.004*	*0.018*
	Advertising communication	Low	0.015	0.009	0.001	0.034
		Medium	0.007	0.004	0.001	0.016
		High	*0.002*	*0.005*	*-0.006*	*0.013*

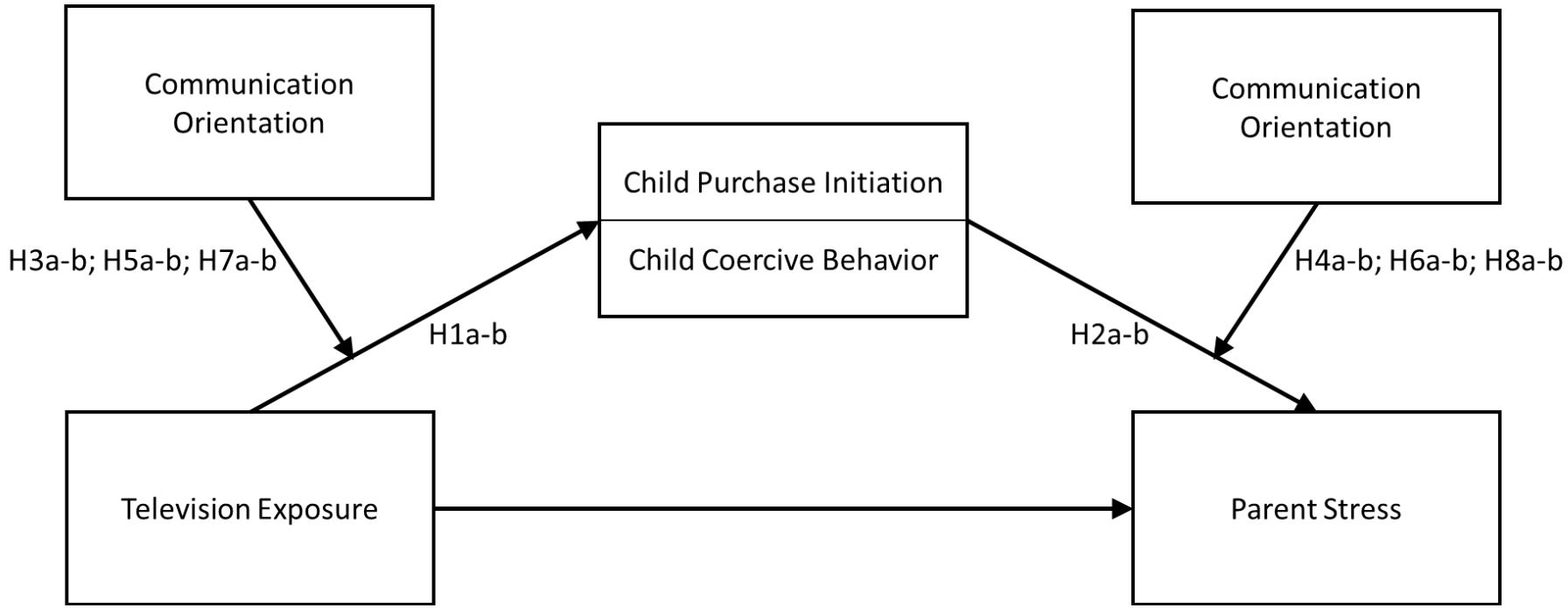
Note: Lines that are italicized are NOT significant. Bias corrected bootstrap 95% confidence intervals for an indirect pathway between television exposure and parental stress, through purchase initiation and coercive behavior at three levels of the moderator (High = +1 s.d.; Medium = mean; Low = -1 s.d.).

Table 5: Summary of Results for Hypothesis Tests

H#	Relationship Explored	Hypothesized Relationship	Results	Notes
H1a	Television exposure → purchase initiations	+	Supported	
H1b	Television exposure → Coercive behavior	+	Mostly supported	Marginally significant for the model with control communication as moderator
H2a	Purchase initiation → Parental stress	+	Supported	
H2b	Coercive behavior → Parental stress	+	Supported	
H3a	Collaborative communication moderates relationship between television exposure and purchase initiation	-	Not supported	
H3b	Collaborative communication moderates relationship between television exposure and coercive behavior	-	Not supported	
H4a	Collaborative communication moderates relationship between purchase initiation and parent stress	-	Not supported	Interaction term was significant but relationship between purchase initiation and stress was stronger for higher levels of collaborative communication
H4b	Collaborative communication moderates relationship between coercive behavior and parent stress	-	Not supported	Interaction term was significant but relationship between coercive behavior and stress was stronger for higher levels of collaborative communication

H5a	Control communication moderates relationship between television exposure and purchase initiation	-	Not supported
H5b	Control communication moderates relationship between television exposure and coercive behavior	-	Not supported
H6a	Control communication moderates relationship between purchase initiation and parent stress	+	Not supported
H6b	Control communication moderates relationship between coercive behavior and parent stress	+	Not supported
H7a	Advertising communication moderates link between television exposure and purchase initiation	-	Not supported
H7b	Advertising communication moderates link between television exposure and coercive behavior	-	Supported
H8a	Advertising communication moderates link between purchase initiation and parent stress	-	Not supported
H8b	Advertising communication moderates link between coercive behavior and parent stress	-	Not supported

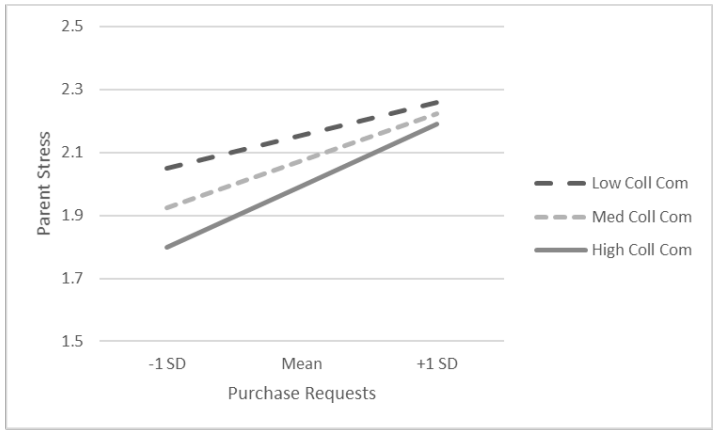
Figure 1: General Moderated Mediation Model for All Tests



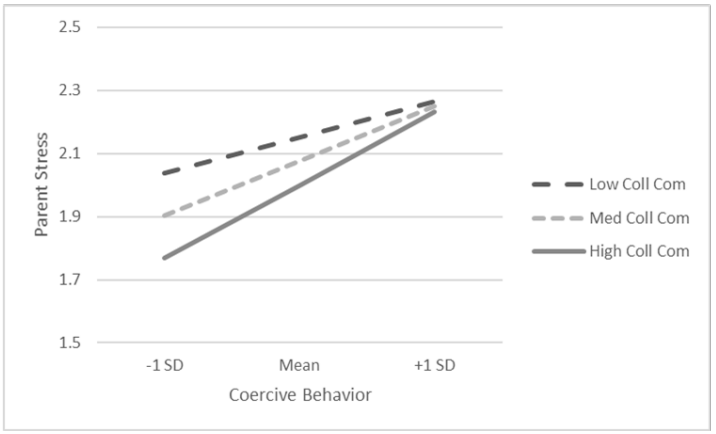
Note: For communication orientation, the model tested three separate moderators: collaborative communication, control communication, and advertising focused communication.

Figure 2: Graphical Depictions for all Significant Interactions

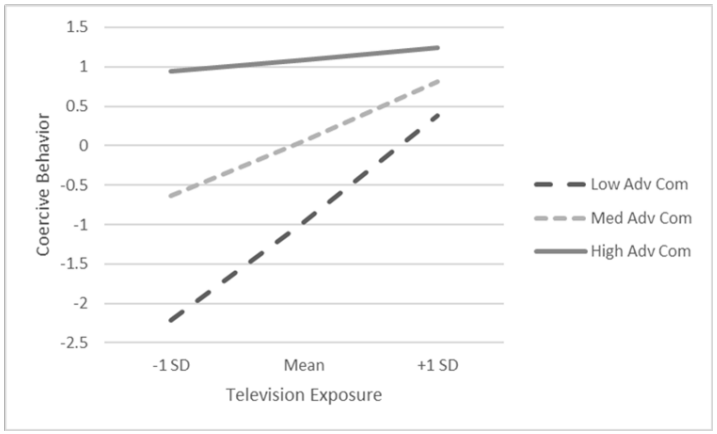
2a.)



2b.)



2c.)



Note: Plotted interaction effects for a.) purchase initiation and collaborative communication on parent stress b.) coercive behavior and collaborative communication on parent stress and c.) television exposure and advertising communication on coercive behavior.