

PARENTS' MENTAL STATE COMMUNICATION AND CHILDREN'S CONSUMER
BEHAVIOR

by

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Abstract

Working with 420 mothers of children between the ages of 3 to 7, the current study investigated whether parents' mental state communication affects children's consumer behavior, specifically their purchase requests to their parents. The study hypothesized that parents' mental state communication would reduce children's purchase requests through parents' active engagement in discussions about advertising with their children (i.e., active mediation) and through children's social cognitive skills (i.e., Theory of Mind; ToM). However, results indicated that parents' active mediation was positively associated with purchase requests by children. In addition, mental state communication was negatively associated with active mediation. Thus, although the directions of associations were different from expectations, there was a negative and indirect effect of mental state communication on purchase requests through active mediation. Moreover, children's ToM skills were not associated with either parents' mental state communication or children's purchase requests, and there was no indirect effect of mental state communication on purchase requests through ToM skills. Interestingly, parents' mental state communication had a direct and negative effect on children's purchase requests. The present study is the first study that introduced and revealed mental state communication as one type of parental communication pattern that could decrease advertising effects in children.

Keywords: Mental State Communication, Consumer Socialization, Parental Mediation, Theory of Mind, Parent-Child Communication

Parents' Mental State Communication and Children's Consumer Behavior

For decades, children have been considered vulnerable targets of commercial messaging due to their immature cognitive development (Kunkel et al., 2004). In contemporary society, commercial messages are easily found throughout children's daily lives, including their home, public spaces, and even schools (Signal et al., 2017). Moreover, products that are not recommended for children, such as fast-food restaurants, are twice as likely to be advertised to them as products that are recommended for young consumers (Signal et al., 2017). Hence, this commercial exposure likely influences children's desire to possess advertised products, which increases the number of requests they make to parents (Buijzen & Valkenburg, 2003). Research has further shown that children's purchase requests are related to parent-child conflict (Buijzen & Valkenburg, 2003). Thus, as the primary target of problems triggered by children's consumer behaviors (i.e. purchase requests, purchase conflict), parents often find it necessary to intervene regarding their child's commercial exposure and consumer socialization (i.e., parental mediation).

Parental mediation, therefore, has been suggested to be an important area within the children and advertising literature. Parental mediation refers to any kind of parental intervention regarding children's media exposure (Nathanson, 2001). Specifically, many of the studies in this area have suggested that an active discourse between children and parents about advertising (i.e., active mediation) reduces the effects of advertising on children (i.e., purchase requests, consumption of energy-dense foods; Buijzen, 2009; Buijzen & Valkenburg, 2005). Moreover, existing research suggests that authoritative parents are more likely to care about children's autonomy but also enact consistent discipline (Baumrind, 1978). However, they tend to explain why the rules exist (Baumrind, 1978). In line with these characteristics, research suggests

authoritative parents are more likely to explain purpose of advertisements with their children than non-authoritative parents (Carlson & Grossbart, 1988).

However, the present study argues that there could be different mechanisms that might explain the decrease in advertising effects on children's purchase requests starting from a different parental factor. In other words, the current study suggests that a certain communication approach, which authoritative parents may be more likely to engage in than others, could be the key factor that drives the decrease in children's purchase requests. The particular communication approach, which I posit should be positively related to the authoritative parenting style, is mental state communication.

Mental state communication is a parental communication strategy that emphasizes the importance of mental states in conversations with children (Peterson & Slaughter, 2003; Tompkins, Benigno, Kiger Lee, & Wright, 2018). For example, if a parent tries to explain to his four year old child why a dog is barking outside, he could say either "Dogs bark for lots of reasons: Maybe he is barking at his reflection" or "Maybe he has seen his reflection in the window and thinks that it is another dog. Because he is a dog, he does not know about reflections and mirrors like we people do" (Peterson & Slaughter, 2003). The latter interaction highlights the mental state that the dog might have at the moment, and this demonstration helps the child understand why the dog barked based on the dog's thoughts. This particular communication approach, also used by childcare practitioners, is guided by the adults' beliefs and awareness of children as mental beings who are mindful and can think independently (Degotardi & Sweller, 2012). Similarly, parents who have this awareness of children may engage in more thoughtful discussions with children because they believe their children can think and learn lessons via

participating in the discussion. Therefore, parents' mental state communication should predict parents' active mediation.

Mental state communication can also contribute to children's purchase requests by influencing their development in socio-cognitive skills, otherwise known as Theory of Mind (ToM). ToM is a set of cognitive skills that develops in children which helps the child become aware of other people's mental states and to perceive others as psychological beings with different mental states (Wellman, Cross, & Watson, 2001). Previous research shows that parents who communicate with their child in a way that reflects their respectful attitudes toward their mental states tend to have children who have better ToM skills (Tompkins et al., 2018). More importantly, development in ToM should be related to a decrease in children's purchase requests, considering its positive association with children's understanding of advertisers' intent and a negative association between children's advertising understanding and their purchase requests (Lapierre, 2015, 2019).

Taken together, this study investigates whether the mental state communicative approach that parents engage in is associated with a decrease in children's consumer behavior (i.e., purchase requests). In other words, the present study argues that mental state communication by parents, which reflects their awareness of children as psychological beings, may contribute to children's purchase requests indirectly but ultimately via active mediational strategies and children's social-cognitive understanding.

Active Parental Mediation and Children's Purchase Requests

Parental mediation is any kind of intentional intervention of parents between their children and the media (e.g. television; Nathanson, 2001). Nathanson (2001) noted the three

dimensions in parental mediation: active, restrictive, and co-viewing. In Nathanson's article, active mediation is defined as an active discussion between parents and children about media content. Restrictive mediation is restricting children's exposure to media products. Lastly, co-viewing refers to a mere act of watching or using media with children. However, according to Nathanson (2001), co-viewing has been equated as an active mediation in many previous studies. Although the two were conflated in previous research, active mediation does not premise co-viewing as a basic condition where active mediation occurs; the active discussion can happen before, during, and/or after co-viewing (Nathanson, 2001).

Although findings on the effectiveness of different types of parental mediation strategies on reducing advertising effects on children are mixed (Buijzen, 2009; Buijzen & Valkenburg, 2005), active mediation should be ultimately helpful for children. Because advertisements are easily found around children's daily lives (Signal et al., 2017) and multiple media devices are available for children (Daems, 2018), their exposure to advertisements should be frequent as well. In this case, it may be more helpful for them to learn about advertisements' overarching commercial intent and potential strategies that advertisements use to persuade their potential customers through active conversations about commercials with their parents.

As Buijzen and Valkenburg (2005) have suggested, discussions about advertising with parents is an efficacious tool for children to help them think about advertising by themselves. Past findings suggest that active mediation helps to reduce materialism in children and purchase requests which are driven by increased advertising exposure (Buijzen, 2009; Buijzen & Valkenburg, 2005). Using self-determination theory, which posits that one's intrinsic and autonomous needs yield better motivations in learning of norms and rules than extrinsic pressure

(Ryan & Deci, 2000), Valkenburg and her colleagues (2013) also suggested that the autonomy-granting feature of active mediation should affect children's consumer behavior (i.e., decrease in purchase/purchase requests of advertised products). Theoretically and empirically, therefore, active mediation should be negatively associated with children's consumer behaviors (e.g., purchase requests) driven by exposure to advertising messages. Thus, the present study suggests that active mediation will be associated with a decrease in children's purchase requests.

H1: Active mediation will be negatively associated with children's purchase requests.

Previously, research explored what could be other parental factors that could predict parents' mediation styles (e.g. parental socioeconomic status and parental stress; Warren, 2005; Warren & Aloia, 2019). Parenting style has been suggested to be one of the factors that are related to an individual's parental mediation style (Carlson & Grossbart, 1988; Warren & Aloia, 2019). However, the present study suggests that there could be another parental factor that predicts parental mediation style.

Mental State Communication and Authoritative Parenting Style

Earlier research investigated the association between general parenting style and parental mediation style. For example, Carlson and Grossbart (1988) formed five different clusters for differentiating parenting styles and investigated its association with parental mediation style. Of particular interest for the current study is the classification of authoritative parenting.

Authoritative parents set certain boundaries and rules that children must follow, but at the same time, they also respect children's perspectives and are open to talk to them (Baumrind, 1968).

Authoritative parents also tend to recognize and respond to children's emotional needs and to explain the reasons behind certain rules that they set on children's behaviors (Baumrind, 1968,

1978). In other words, authoritative parents value children's autonomy in terms of raising children so that they prefer to explain things rather than order them to do certain things.

According to Carlson and Grossbart (1988), authoritative parents are revealed to be more likely to express concerns about children's advertising exposure and hold negative attitudes toward advertising than non-authoritative parents. Carlson and Grossbart further revealed that authoritative parents are more likely to engage in active discussions about advertising with their children than other parents except for parents who were classified as authoritarian (i.e., rigid and controlling parents). Therefore, authoritative parents' autonomy-valuing attitudes may lead them to engage in more active mediation than other parents.

Grave (2016), however, posited that authoritative parents are more likely to perceive their children as psychological beings. That is, parents whose parenting style is authoritative, also tend to regard their children as individuals who have their own thoughts and feelings. Moreover, this type of attitude is associated with parents' propensity to engage in mental state communication. Mental state communication refers to parental communication with children that grounds the mental states of individuals as the driving source of their behaviors (Degotardi & Sweller, 2012; Peterson & Slaughter, 2003; Tompkins et al., 2018). Mental states include one's beliefs, knowledge, emotions, and intentions. For example, if a parent tries to explain to his four year old child why a dog is barking outside, he could say *either* "Dogs bark for lots of reasons: Maybe he is barking at his reflection" *or* "Maybe he has seen his reflection in the window and thinks that it is another dog. Because he is a dog, he does not know about reflections and mirrors like we people do" (Peterson & Slaughter, 2003). The latter interaction highlights the mental state that the dog might have at the moment, and this demonstration helps the child understand why the dog barked based on the dog's thoughts.

Hence, authoritative parents could focus explanations on mentality to their children more than other parents. In addition, their focus on mentality in conversations could have led them to engage in more discussions about advertising with children rather than to block them away from advertisements. Different from what is already revealed from existing research findings, the unique parental communication approach that emphasizes mentality could be the primary factor that had led authoritative parents to engage in more active mediation rather than their general parenting style. Therefore, the current study contends that authoritative parenting styles should have a positive association with parents' mental state communication.

H2: Parents' mental state communication style will be positively associated with the authoritative parenting style.

It is not true, however, that all authoritative parents would prefer and engage in mental state communication, although they could be positively associated with each other. Thus, mental state communication should be an independent factor that drives parents to engage in active mediation.

Mental State Communication and Active Mediation

Parents' perceptions of children should likely influence how they communicate with their children. Degotardi and Sweller (2012) noted that adults' perceptions of children as "feeling, intentional, and sentient, as opposed to purely physical beings" (p. 253) are reflected in their talking patterns with children. In other words, mental state communication reflects parents' belief that their children are psychological entities, so they focus on mentalistic elements when they interact with their children. If parents believe that their children are capable of mentalistic and intelligent thinking, they would likely prefer bi-directional and discussion-like

communication patterns where children are treated as individual thinkers and where children's opinion can contribute to parent-child conversations. Therefore, parents' engagement in particular communication patterns may be associated with their selection of a parental mediation strategy.

It is conceivable that parents who engage in active parental mediation would value communication with children and respect their opinion. Previous research on parental mediation suggests that parents tend to engage in more discussions with children over various topics from television if they want their children to be able to reflect on things and realize the truth by themselves (Fujioka & Austin, 2002). Thus, parents who communicate with their children in a way that sees them as independent psychological beings will be more likely to engage in active mediation.

H3: Parents' mental state communication will be positively associated with their use of active mediation.

However, as previous findings have shown, authoritative parenting could also predict parents' use of active mediation. From this study, I would like to test whether mental state communication itself could predict parents' engagement in active mediation without the influence of the authoritative parenting style. Therefore, I offer the following research question:

RQ: Will mental state communication be positively associated with active mediation after controlling for authoritative parenting?

Mental State Communication, Theory of Mind, and Children's Purchase Requests

Mental state communication will not only contribute to parents' advertising mediation

style but also will predict children's socio-cognitive development, which will be ultimately necessary for children's consumer socialization. Socio-cognition is an ability to recognize, understand, and apply social rules to interact with other people around a person, and this cognition is crucial for individuals to grow into successful members of society (Higgins, 2000). One of the socio-cognitive skills that allow children to understand others' minds and their own is known as Theory of Mind (ToM; Wellman et al., 2001).

ToM is a set of skills that allow children to understand that their mental states and those of others exist and that minds can differ from each other (Wellman et al., 2001). In addition, ToM skills allow children to understand that the mental states of other people are important predictors of their future behaviors (Wellman et al., 2001). ToM is not a formal theory but rather a "folk psychology" that everyone has. Folk psychology means that every human being uses one's unique way to interpret and predict other people's mental states and the reasons behind their behaviors (Stich & Nicholas, 1992). With higher ToM skills, thus, people would understand and infer others' explicit behaviors and internal states better.

One of the tasks to test such abilities is known as the false-belief task. In this task, a participant is told a story of Maxi who played with a toy in his room. Maxi left his room after he put his toy on his bed. Later, his mom came into the room and moved his toy into his toy box. Then, the participant is asked where Maxi would look for the toy when he gets back to his room. Children who have more advanced ToM skills would say that Maxi would look for his toy on his bed while children who have less advanced ToM skills would say that Maxi would look for his toy from his toy box.

Namely, a child who understands that Maxi does not have the same information about the

toy's location as the audience does (i.e., the child participant of the task) would know that Maxi will use his own information of the toy's location to search for the toy. This understanding indicates that the child knows that minds work separately from one another and that one's mental state drives a person's future behaviors.

Children's ToM skills develop throughout childhood with research showing that its development follows a particular pattern with more complex skills emerging later in childhood (Wellman & Liu, 2004). They tend to understand other's desires first, then follow with beliefs, knowledge, and finally emotions and intention later on (Wellman & Liu, 2004). For example, to a child with less advanced ToM skills, a belief statement of someone saying "cereal X is a good cereal" should be understood as the truth. However, with more ToM skills, children may perceive the same statement as a message with persuasive intentions which could influence the readers' attitudes toward the cereal X (Lapierre, 2015). Thus, as children develop ToM skills, they may have a better understanding of others' mental lives.

ToM skills are also useful for children to comprehend advertising messages. Earlier scholars suggested that ToM skills are related to children's persuasion knowledge (Moses & Baldwin, 2005). In particular, Moses and Baldwin (2005) posited that these specific cognitive skills are related to children's advertising understanding. Namely, children may understand advertising purposes better if they understand that each person has different mental states and that other people could intentionally use strategies to influence their mental state to change their attitudes or beliefs regarding advertised products. Specifically, one of the ways that marketers seek to change the mental states of the viewers, which children must understand to comprehend advertising's intention, is that marketers or advertisements often provide positively biased

information about the product to its viewers (Moses & Baldwin, 2005). For example, commercials that sell cereals targeted to children could show the characters from the commercial become stronger or cooler after eating the product, which could give certain impressions to the young viewers that they can also be powerful or cool if they eat the advertised cereal.

Moses and Baldwin (2005) postulated that children may not only understand one of the chief reasons for advertising (i.e. *selling intent*; the advertisers try to sell products to you; Kunkel, 2010) but also specific purposes of strategies that they use to persuade the customers to purchase the products (i.e. *persuasive intent*; the advertisers try to persuade you to sell the product to you by influencing your mental states toward the product; Kunkel, 2010) if they have more advanced ToM skills. As Wellman and Liu (2004) suggested, ToM follows a particular pattern in terms of its development. Therefore, according to Moses and Baldwin (2005), children's knowledge of advertisers' *desire* to sell products from commercials should be acquired earlier than their understanding of advertisers' *intention* to influence the viewers' minds to maximize their profits.

To test what Moses and Baldwin (2005) suggested, Lapierre (2015) conducted a study with children whose age ranges between 6 to 9 years old. With the distinct definitions of selling and persuasive intent of advertising, Lapierre (2015) revealed that children's ToM development was a crucial predictor of their understanding of selling intent regardless of their age and language competency. Thus, as posited by Moses and Baldwin (2005), it is revealed that children's ToM development plays a crucial role in their understanding of advertising. These particular socio-cognitive skills (i.e. ToM) are ultimately and closely related to children's purchase request because children's understanding of advertisers' intent has a close link with it.

Kunkel (2010) posited that the findings in the research area on children's advertising knowledge and their consumer behaviors are mixed due to the inconsistent definitions used in the field. Again with the distinct definitions of selling and persuasive intent of advertising, Lapierre (2019) tested the association between children's understanding of advertisers' intent and their purchase requests to their parents with children between 6 to 9 years old. From the study, Lapierre found that children's selling intent understanding is negatively associated with children's purchase requests. In other words, children who understood the selling intent of advertising, who may have more advanced ToM skills based on Lapierre's study (2015), were less likely to request consumer products from parents. Therefore, based on the previous findings, the present study predicts that ToM skills of children will be negatively associated with their purchase requests.

H4: Children's ToM will be negatively associated with their purchase requests.

Although previous research suggested that ToM develops mostly and naturally during the age of 3 to 5 years old (Wellman & Liu, 2004), research on differently abled children (e.g., hearing-impaired) shows that their development in ToM is slower than other children (Peterson & Siegal, 2000). Environmental factors such as verbal interactions between children and parents are also important for children's ToM development. According to a meta-analysis on mental state communication and children's social understanding (Tompkins et al., 2018), researchers in this area have posited the importance of parents' role in developing children's social understanding through a Vygotskian perspective (Vygotsky, 1978). Vygotsky postulated that there are three realms in children's ability, where 1) children can do by themselves, 2) children cannot do, 3) and children can do with some assistance from the outside. Vygotsky called the

third realm the zone of proximal development, and most of the scholars in mental state communication and children's social understanding contend that children's social understanding is in the proximal development zone whereby parents can contribute to their growth in social understanding (Tompkins et al., 2018).

According to the meta-analysis on the association between parents' mental state communication and children's ToM development (Tompkins et al., 2018), parents' clarifying and explaining things to children is crucial for children's ToM development. For example, a study done by Peterson and Slaughter (2003) tested whether a mother's elaborateness in talking and mental awareness of children as psychological beings were related to children's ToM. The study found that parents who are more likely to elaborate and include a mental component (e.g., discussing the role mental states play in decision making) in their conversations tend to have children with better ToM skills. On the other hand, parents who do not explain things in a detailed manner and who do not focus on these mental components in their conversations with their children tend to have children who have lower ToM skills. These two associations held even when the children's age, verbal mental age, and gender were controlled (Peterson & Slaughter, 2003). Taken together, previous research suggests that mental state communication and its explanatory features are an important predictor of children's ToM skills. Therefore, the present study predicts that there will be a positive relationship between parents' mental state communication and children's ToM skills.

H5: Parents' mental state communication will be positively associated with children's ToM skills.

Thus far, previous sections have discussed how parents' engagement in mental state

communication influence their parental mediation style and development of their child's socio-cognitive skills (i.e., ToM skills). In addition, previous research findings supported the idea that active parental mediation and development in ToM could be crucial predictors of a decrease in children's specific consumer behaviors, which is purchase requests. Hence, parents' engagement in mental state communication could reduce children's purchase request via active mediation and better developed ToM skills of children. Therefore, the present study suggests that mental state communication could influence children's purchase requests indirectly through the two mediators.

H6: Mental state communication will be negatively and indirectly associated with children's purchase requests via parents' engagement in active mediation.

H7: Mental state communication will be negatively and indirectly associated with children's purchase requests via children's developed ToM skills.

Methods

Participants

The sample was recruited from the online survey platform Qualtrics. To participate, respondents had to have at least one child between the ages of 3 to 7. If a participant had more than one child, participants were asked to select the child with the most recent birthday and to think about this particular child throughout the survey. A study done by Carlson, Grossbart, and Stuenkel (1992) revealed that mothers tend to report that they are primary agent who are in charge of socializing their children as consumers. In addition, limiting the sample to mothers only would allow me to control for the difference between mothers and fathers. For these reasons, the author chose to only focus on mothers for the data collection.

Four hundred and twenty mothers participated in this study. For target children, there were 206 boys (49%) and 214 girls (51%). The average age of the target children in the sample was 65.41 months ($SD = 17.92$, approximately 5.5 years). The average age of parents in the sample was 34.00 years ($SD = 6.45$). Mothers described their children as White (66.4%), Black (8.1%), Latino/a (3.8%), Asian (3.8%), Native American (0.5%), Pacific Islander (0.2%) and Multiracial (17.2%). They described themselves as White (73.8%), Black (8.6%), Latino/a (4.3%), Asian (5.7%), Native American (0.2%), Pacific Islander (0.5%) and Multiracial (6.9%).

Participants were also asked to report on their family income, they answered on a scale from 1 (less than \$10K) to 12 (more than \$150K) with increments of \$10K. The average family income was between \$60,000 to \$69,999. In addition, the average education level of participants was approximately a vocational degree and the mode of the education level was bachelor's level degree or equivalent (30.2%). Participants were asked to report their working hours outside the home per week. With the scale from 1 (0 hours) to 9 (71 hours or more) in increments of 10 hours, the average of participants' working hours was between 11 to 20 hours.

Measures

Authoritative Parenting Styles. Participants completed a 10-item scale that measures authoritative parenting from the Parent Authority Questionnaire-Revised Scale (PAQ-R; Reitman, Rhode, Hupp, & Altobello, 2002). Participants indicated the extent of their agreement to items on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Sample items included "My children know what I expect from them but feel free to talk with me if they feel my expectations are unfair". The higher the score is, the more authoritative the parent is in their parenting style. The measure reported good internal consistency ($M = 4.18$, $SD = 0.56$, $\alpha = 0.84$).

Active Mediation. Participants completed a five-item scale to measure the frequency that

they engage in active advertising mediation (Buijzen & Valkenburg, 2005). Participants used a four-point scale to indicate their frequency (1 = *never* to 4 = *always*). Sample items include “how often do you tell your child that advertising depicts products as better than they are?” and “how often do you tell your child that the purpose of advertising is to sell products?”. The higher the score is, the more a mother engages in active mediation. The internal consistency for this scale was good ($M = 2.16$, $SD = 0.73$, $\alpha = 0.87$).

Mental State Communication. To measure parents’ tendency and preference for mental state communication, Peterson and Slaughter (2003) developed a questionnaire called the Maternal Mental State Input Inventory (MMSII). There are four response types with two dimensions; mental awareness and elaboration. They are elaborated mental state (EMS), non-elaborated mental state (NEMS), elaborated non-mental state (ENMS), and non-elaborated non-mental state (NENMS). With the original measure, parents were asked to imagine their kids as a four year old in a given context and were asked to rank the options in an order that they would most likely or prefer to do in that situation. For instance, one of the questionnaires has a scenario where a parent lost their car key. In the scenario, a child provides the location of the key and why the kid believes the key is in a certain place. Parents were asked to rank the four options of their responses to the child.

Parents who engage in mental state communication would respond with *either* “‘Oh what a relief! That was very clever of you to notice the keys and to tell me where they were when you couldn’t see them’ (NEMS), *or* ‘Oh what a relief! And what a clever little mind you have! You noticed where the keys went and then when they were hidden, you still knew where they were, even though you couldn’t see them. My mind was not as clever as yours. I did not think about the crack in the cushions. So I was all wrong and thought the keys were by the phone when they

were really under the sofa!" (EMS).

Parents who engage in non-mental state communication would react to the child *either* "“Oh what a relief! Let’s unlock the garage quickly and then we play for a while outside.” (NENMS) *or* "“Oh what a relief! It is good you saw where the keys went. I might never have found them. That so is like your sandpit! Things sink down into it and then get buried. Speaking of sandpits, let’s go unlock the garage quickly and then we can go outside and play together in the sand. We can build a castle in your sandpit. Wouldn’t that be fun?”" (ENMS).

What makes the difference between the longer and shorter version within each type of response is the degree of elaboration of their responses to the child. Although parents value the explanation with logical reasoning, the preference in elaborating on their responses to children may differ by parents. Similarly, parents who engage in non-mental state communication would also show different tendencies in their degree of elaboration.

Although the original MMSII scale involved an elaboration dimension, the present study did not include this dimension in the survey option since this was not of interest. The purpose of this study was to explore how parents' communication about mental attribution in everyday life influences their engagement in a certain type of advertising mediation and their children's development in cognitive skills. Thus, the current study only used two options of the original four options, which are NEMS and NENMS (NE stands for non-elaborateness).

In this study, each participant read 12 vignettes as Peterson and Slaughter (2003) suggested in their original study. Then, they chose either the NEMS (e.g., “To get the keys: I need the keys to unlock the garage. They are probably by the phone.”) or the NENMS (e.g., “To get the keys: I need them to unlock the garage and I don’t *know* where they are, so I’m going to look for them by the phone.”) for each vignette. Respondents got 1 point for choosing NEMS,

and they got 0 points for NENMS. Therefore, the total score that each participant could have ranges from 0 to 12. The total sum of the score for each participant was used in the analysis to indicate their degree of engagement in mental state communication with their child.

To report a dichotomous measure's reliability, researchers have used Kuder and Richardson 20 (KR 20; Kuder & Richardson, 1937). However, the formulas for both KR 20 and Cronbach's alpha coefficient are mathematically equivalent (Cronbach, 1951; Kuder & Richardson, 1937). Both formulas are based on the number of items, the variance of each item, and the variance of the total score of total items.¹ Therefore, the current study employed Cronbach's alpha coefficient for the mental state communication scale's reliability. The Cronbach's alpha coefficient of this measure, however, turned out to be low (M = 7.01, SD = 1.82, $\alpha = 0.26$). Since the low internal consistency is problematic, the author attempted to improve reliability. To improve internal consistency of the measurement, the author decided to conduct a factor analysis to find a better set of items which could represent the variable better.

To do the factor analysis with a dichotomous measure, a tetrachoric correlation matrix was needed (Lorenzo-Seva & Ferrando, 2012). Using the steps that these authors suggested, a tetrachoric correlation matrix was generated (see Appendix A). The matrix was then used for conducting a factor analysis. The strongest factor generated from the factor analysis included six items initially: they are item #1, #3, #4, #5, #9, and #11. However, the item #4 had a negative factor loading. Therefore, the current study used the five items (#1, #3, #5, #9, and #11) that

¹ The formula of KR20 = $\frac{k}{k-1} [1 - \frac{\sum_{i=1}^k p_i q_i}{\sigma^2_{test}}]$ where k stands for the number of items, p_i is the proportion of respondents answered for 1, q_i is the proportion of respondents answered for 0, and σ^2_{test} is the total test score variance.

The formula of Cronbach's $\alpha = \frac{k}{k-1} [1 - (\sum_{i=1}^k \sigma^2_i) / \sigma^2_{test}]$ where σ^2_i stands for the variance of item i . From the two formula, $\sum_{i=1}^k p_i q_i$ and $\sum_{i=1}^k \sigma^2_i$ are equal when the items are binary.

loaded together on the strongest factor for the final analysis. The composite score of the scale ranged from 0 to 5. The internal consistency of the five items are calculated based on the tetrachoric correlation table, and the Cronbach's alpha coefficient for this measure much improved ($M = 3.77$, $SD = 1.19$, $\alpha = 0.64$). Therefore, the current study employed the composite of these five items for further analyses.

Theory of Mind. Participants completed the short form of Children's Social Understanding Scale with 18 items (CSUS; Tahiroglu et al., 2014) which measure children's Theory of Mind skills. The original CSUS scale included 42 items, but Tahiroglu and her colleagues (2014) revealed that the shorter form also predicted children's ToM skills as the full version did. Thus, the present study used the shorter form with 18 items. Participants indicated the extent of their agreement to the items on a 4-point Likert scale (1 = *strongly disagree* to 4 = *strongly agree*). Sample items include "My child talks about the difference between intentions and outcomes (e.g., "He tried to open the door, but it was locked")" (i.e. intention) and "My child realizes that experts are more knowledgeable than others in their specialty (e.g., doctors know more than others about treating illness)" (i.e. knowledge). The internal consistency of this scale was very good ($M = 2.96$, $SD = 0.47$, $\alpha = 0.88$).

Children's Purchase Requests. One of the explicit consumer behaviors that children can engage in, considering their limited purchase power, is to make a request to their parents for products. For this reason, the present study focused on children's purchase requests as chief consumer behavior. To measure this, parents were asked to indicate how often their children request for the purchase of certain products. A list of nine products which should be appealing for both boys and girls were provided to parents (i.e. toys, computer and video games, clothes, sweet snacks (e.g., candy, chocolate), salty snacks (e.g., potato chips), cereal, fast-food

restaurants, non-fast-food restaurants, and sugary drinks), and the options for the response were 1 = *never* to 4 = *always* for each product (Lapierre & Rozendaal, 2018). The sum of the item scores was used in the analysis ($M = 23.83$, $SD = 4.64$).

Covariates

Television/Digital Screen Exposure Time. Participants reported their child's exposure time to television and digital screens, such as a computer, smartphone, and tablet computer, because they are crucial sources where children can encounter advertising messages. Participants were asked to report how many days on weekdays (from Monday to Friday) their children are exposed to television and digital screens. Then, they were asked to enter the estimated time of children's exposure to television and digital screens in hours and minutes. The same set of questions were asked for the weekend (Saturday and Sunday). A child's exposure time to television and digital screens per week was calculated by multiplying the number of days per week that a child watches by the number of hours that the child watches on each day. Then the two exposure times of television and digital screens were added and divided by two to get the child's average media exposure time (hours) per week ($M = 22.35$, $SD = 15.70$). Because the survey was conducted early on during the nationwide stay-at-home order due to the pandemic (i.e., COVID 19), the author asked participants to report their children's media exposure time during the ordinary days before the outbreak.

Co-Shopping Frequency. Participants were asked to respond to an item asking the frequency of their co-shopping experience with their child. Participants indicated the extent of their agreement to the item on a 5-point Likert scale (1 = *never* to 5 = *always*). The question was "how often do you bring your child to go shopping?" ($M = 3.23$, $SD = 1.04$).

Demographics. Participants reported on the child's age (in months), gender, and

race/ethnicity. In addition, participants were asked to indicate the child's birth order and the number of children in the home. They also reported on their educational background (from none to Ph.D.), family income, age, race/ethnicity, and their work hours outside of the home per week.

Differentiation of Self. Bowen (1978) suggested that individuals with a high level of self-differentiation are more likely to think rationally even in emotional situations. According to Bowen (1978), differentiation of self (DOS) is an ability to separate emotion and perception so that the individual can think logically. This ability may be related to mothers' engagement in mental state communication. Mothers with lower DOS skills may be less apt at explaining mental attribution appropriately in situations and could be reactive in a more emotional way. Therefore, the present study decided to include the DOS skills of mothers as covariates of the study.

To measure DOS skills of an individual, Drake, Murdock, Marszalek, and Barber (2015) developed a shortened version of the Differentiation of Self Inventory (DSI; Skowron & Friedlander, 1998) named DSI-SF (i.e., short form) with four subscales. The author of the current study decided to use one of the subscales called Emotional Reactivity (ER). People better in ER are more likely to stay reasonable and logical even during emotional situations. Therefore, ER may covary with mothers' engagement in mental state communication. Mothers who can perceive situations with rational thought and who can differentiate perception from emotion would explain to their children about the role of mental states in situations more often and accurately. Therefore, the current study used one subscale of DSI-SF (i.e., ER) as a covariate. Sample items include "At times my feelings get the best of me and I have trouble thinking clearly". Participants indicated the extent of their agreement to the items on a 6-point Likert scale (1 = *not at all true of me* to 6 = *very true of me*). The measure was revealed to have good

reliability ($M = 3.97$, $SD = 1.11$, $\alpha = 0.88$).

Analysis

Zero-order correlations of variables of interest are in Table 1. The results of the regression model are in Table 2 and Table 3. The conceptual models of the present study are depicted in Figure 1 and Figure 2. The mediation models were tested using a mediation model with 5,000 bootstrapped samples (PROCESS Model 4) by Hayes (2017). For the mediation model, parents' mental state communication was the independent variable, and the children's purchase request was the dependent variable. There were two mediators in the model: parents' active mediation and children's ToM. The covariates for the model were the child's age, family income, children's media exposure time (i.e., television and digital screen), parent-child co-shopping frequency, and parent's authoritative parenting style. For all hypotheses and research question tested in this model, a p-value of less than 0.05 was considered significant.

Results

Every hypothesis of the current study was tested with a parallel mediation model with two mediators after controlling relevant covariates. In the model, parents' mental state communication was an independent variable, and the children's purchase request was a dependent variable. Active mediation and ToM were mediators. In this model, theoretically relevant variables were used as covariates. Among the covariates, emotional reactivity was removed from the model for two reasons. First, the variable was not correlated with mental state communication. Parents' emotional reactivity was suggested as a covariate because it was assumed to be related with their engagement in mental state communication. However, contrary to expectations, mental state communication and emotional reactivity were not significantly correlated. Second, the difference of the R-square values between the models with and without

emotional reactivity was only 0.017. Therefore, the child's age, family income, children's media exposure time (i.e., television and digital screen), parent-child co-shopping frequency, and parent's authoritative parenting style were controlled. The total effect model was significant [$R = 0.455$, $R^2 = 0.207$, $F(6, 403) = 17.497$, $p < 0.001$].

H1 predicted a negative association between active mediation and purchase requests. Contrary to expectations, active mediation was *positively* associated with children's purchase requests ($\beta = 0.288$, $p < 0.001$). Thus, H1 was not supported. Additionally, H3 was not supported as parents' mental state communication was *negatively* associated with their engagement in active mediation ($\beta = -0.141$, $p = 0.004$).

A research question offered in the current study was to test whether a *positive* association between active mediation and mental state communication would hold even after authoritative parenting is controlled. This particular control variable (i.e., authoritative parenting) was considered because authoritative parenting is already suggested as a positive predictor of active mediation in previous research (Carlson & Grossbart, 1988). In addition some features of parents who pursue this particular parenting style seemed relevant to that of parents who engage in mental state communication. Therefore, H2 predicted a positive association between mental state communication and authoritative parenting. As predicted, there was a significant positive correlation between authoritative parenting and mental state communication ($r = 0.207$, $p = 0.01$), so H2 was supported.

Furthermore, in line with previous research, authoritative parenting was positively associated with active mediation ($\beta = 0.172$, $p = 0.001$). However, as already mentioned, mental state communication and active mediation revealed to be negatively associated to each other in

the model. That is, the association between mental state communication and active mediation was negative when authoritative parenting is controlled. Therefore, the answer to the research question is that the negative association between mental state communication and active mediation is significant when authoritative parenting is controlled for.

With a negative direct effect of mental state communication on purchase requests ($\beta = -0.222$, $p < 0.001$), an indirect effect of mental state communication on purchase requests through active mediation was significant [$\beta = -0.041$, CI (-0.074, -0.012)]. Although the indirect effect of mental state communication on purchase requests via active mediation was negative and significant, the directions of the associations were revealed to be opposite of expectations. Therefore, H6 was not supported.

H4 predicted a negative association between children's ToM and their purchase requests. However, there was no significant association between children's ToM and purchase requests ($\beta = 0.036$, $p = 0.490$). Moreover, there was no significant association between ToM and mental state communication ($\beta = 0.012$, $p = 0.7837$). Thus, H5 was not supported. Subsequently, there was no indirect effect of mental state communication on purchase requests through children's ToM skills [$\beta = 0.0004$, CI (-0.007, 0.006)].

Discussion

The purpose of the current study was to explore the potential role of parents' mental state communication on children's consumer socialization and consumer behavior. Mental state communication is a communicative approach that emphasizes a person's internal state as an important reason or motivator behind actions. Although this particular communicative approach has not been introduced in the field of family communication and consumer socialization of

children before, the current study proposed its potential association with children's purchase requests through two mediating variables.

First, the present study hypothesized that parents who engage in mental state talk with children would simultaneously engage in more active discussions about advertising because they would believe that their children are able to process what is told during the discussions. Because previous research suggested that active mediation is effective in reducing unwanted advertising effects in children (Buijzen & Valkenburg, 2005), the assumption was that parents' engagement in mental state communication would reduce children's purchase requests indirectly through active mediation.

Second, the present study postulated that children's cognitive skills of understanding other people's internal state and its effects on their actions would be related to their consumer behaviors (i.e., purchase requests). In addition, the present study predicted that parents' mental state communication would develop such cognitive skills of children (i.e., ToM skills). For such reasons, the assumption was that children's developed ToM skills by parents' increased engagement in mental state communication would be negatively associated with children's purchase requests.

By testing the hypotheses, the current study found interesting relationships among the variables. First, in addition to an indirect effect of active mediation on the association between mental state communication and purchase requests, an unexpected direct effect of mental state communication on purchase requests was found. Second, contrary to what was expected, active mediation was not negatively associated with purchase requests. Instead, it was positively associated with purchase requests. Third, children's ToM skills were not associated with either

mental state communication or purchase requests. Therefore, there was no indirect effect of ToM on the association between mental state communication and purchase requests. Lastly, mental state communication and authoritative parenting are positively related to each other. In the following paragraphs, the more detailed interpretations of the findings will be discussed.

Reliability of Mental State Communication Scale

Before moving on to the implications of these findings, the low reliability of the mental state communication scale needs to be addressed. There were 12 vignettes for measuring this construct, and the preliminary analyses showed a poor reliability coefficient of this measure ($\alpha = 0.26$). The low internal consistency of the measure was problematic to be included in the analyses, so the author tried to find the reasons for the low reliability and address the problem.

First, the author assumed that the modification on the original measure may have contributed to lowering the internal consistency of the scale. The original MMSII scale consisted of two dimensions: mental awareness and elaborateness (Peterson & Slaughter, 2003). In the original study, respondents were asked to rank their preference for four options from 1 to 4 (Elaborated-Mental state communication, Non-Elaborated-Mental state communication, Elaborated-Non-Mental state communication, Non-Elaborated-Non-Mental state communication). The author was concerned about the possibility of respondent fatigue which could be triggered by having them fill out a lengthy and complicated scale. In addition, elaborateness was not the major interest of the current study. What the present study primarily focused on was whether parents emphasized mental state awareness when communicating with their children. Therefore, the present study modified the original scale. The elaborateness dimension was removed from the scale which left two options: Non-Elaborated-Mental state

communication (NEMS) and Non-Elaborated-Non-Mental state communication (NENMS).

Respondents were asked to choose either one or the other between the two options.

This adaptation, however, may have contributed to the low-reliability coefficient of the scale. The two non-elaborated options' lengths were intentionally made to be similar to each other. Peterson and Slaughter (2003) wanted to control the effect of word length within each elaborated and non-elaborated option, so the authors intentionally made them similar. The similar word count between NEMS and NENMS could have contributed to respondents' lower attention to survey options. Even though there was an attention check question at the beginning of the survey, respondents could have lost their attention as survey went on. In addition, if both of the two options were socially acceptable responses, they might not have read the other option thoroughly to notice the difference between the two options.

For example, one of the vignettes in this study described how a mother reacted to an unwanted invitation from a neighbor through the phone call. The mother hides her unhappy feelings while she was talking on the phone, but she changed her face when she hung up the phone. When her child asked why she showed different faces before and after the call, there were two options for the respondents. They could choose either "it's polite to be cheerful and agreeable when someone gives you an invitation" (NENMS) or "I was pretending to be happy because I did not want to hurt our neighbor's feelings" (NEMS).

The length of the two options is similar (NEMS: 16 words, NENMS: 13 words), and both options appear to be socially acceptable responses. The ratio between the two options was close to 50 to 50 (NEMS: 47.4%, NENMS: 52.6%). Because the current survey randomized the order of the two survey options for each vignette, the 50 to 50 ratio between the two survey options

can be seen as due to the poor attention of respondents to notice the difference between the two options (e.g., the respondents might have not read the second option thoroughly if the first one resonated with them well). Including the sample vignette, there were three more vignettes that showed ratios close to 50 to 50 between NEMS and NENMS options (i.e., #7, #8, #10, and #12). Thus, the shorter and similar length between the two survey options could be one of the reasons that lowered the internal consistency of the scale.

However, there is another possible reason for the low reliability of the MMSII scale other than the modification. Previous studies that used this MMSII scale already reported low alpha coefficients of NEMS and NENMS options. According to Peterson and Slaughter (2003), the alpha coefficients for NEMS and NENMS were 0.62 and 0.58 respectively. In addition, other published studies that employed the MMSII scale reported low reliability coefficients (EMS $\alpha = 0.68$, NEMS $\alpha = 0.59$, Ebert, Peterson, Slaughter, & Weinert, 2017; EMS $\alpha = 0.53$, Farrant, Marybery, & Fletcher, 2012). The already-low reliability of the scale suggests that there could have been reliability issues with the original scale. This may indicate that the MMSII scale needs some improvement to become a better reliable scale.

To overcome the low reliability of the measurement, the current study conducted a factor analysis based on a tetrachoric correlation matrix of the items (Lorenzo-Sava & Ferrando, 2012). Among the factors generated by the factor analysis, the first and strongest factor included six items. Excluding the one item that had a negative factor loading, the current study employed the five items to analyze the data. The internal consistency of the five items was 0.64 which could be still low but similar to those reliability coefficients of published studies. In conclusion, the current study openly acknowledges the low reliability of the mental state communication scale and the author has taken steps to alter it so that it could be included in the analyses.

Mental State Communication and Active Mediation

With the first mediator, active mediation, the model tested whether there was a positive association between mental state communication and active mediation and a negative association between active mediation and purchase requests by children. Then, the author tested the indirect effect of mental state communication on purchase requests through more active mediation done by parents. Contrary to expectations, mental state communication and active mediation were revealed to be negatively associated. What could be the reason behind this negative association?

Active mediation by parents forms the basis for building up a child's advertising knowledge. Discussions about why advertisers present advertisements to their potential customers and how they depict their products in advertisements would increase children's understanding of advertising purposes and techniques. Thus, parents who engage in active mediation are willing to impart critical views toward advertising on children. Conversely, mental state communication is a particular communicative approach that reflects a parental attitude toward children. To be more specific, mental state communication is not about *teaching* how internal states work in human interactions to children. Rather, it is a communicative approach that reflects a parent's belief that her child can think and feel independently. That is, parents who perceive their child as an individual thinker may not think that they need to lay the groundwork about advertising knowledge for their children because they would assume that their children can process these things by themselves. Therefore, mental state communicating parents might engage in less active mediation because of this difference.

Active Mediation and Purchase Requests

The results of the association between active mediation and purchase requests also was

contrary to expectations. Active mediation did not reduce advertising effects in children. Rather, it increased purchase requests by children. According to John (1999), children younger than 12 years old are less likely to retrieve what they know about advertising and activate the knowledge to defend against the advertising temptations. Active discussions about advertising between a parent and a child may have increased the child's advertising knowledge (e.g., advertising purposes, techniques) than children without active discussions about them. However, although children may have possessed knowledge about advertising, they could not have applied it when they encounter commercials or actual advertised products in stores. For this reason, a positive association between active mediation and purchase requests can be interpreted as a possible outcome.

There is another possible explanation for the positive association between active mediation and purchase requests. It is possible, if not probable, that children who frequently ask for products tend to have parents who talk about advertising more often. Thus, children's frequent purchase requests could have led their parents to talk about advertising with them. However, because this study is a cross-sectional study, a causal association between the two variables cannot be concluded. Future studies should explore the association between the two variables with a longitudinal design to reveal whether purchase requests predicts active mediation or vice versa.

Mental State Communication, Active Mediation, and Purchase Requests

The current study revealed an indirect and negative effect of mental state communication on purchase requests through active mediation as predicted. Technically, however, the hypothesis was not supported. The directions of associations were different from the expectation.

Unlike what was postulated, parents' engagement in mental state communication did not positively predict their engagement in active mediation. Rather, they were less likely to engage in active mediation. Furthermore, active mediating parents are more likely to have children who frequently ask for product purchases. Therefore, although the negative indirect effect of active mediation on the relationship between mental state communication and purchase requests is revealed to be statistically significant, the directions of the individual effects were opposite from expectations.

In conceptualizing the present study, the direct effect of mental state communication on purchase requests was not expected. In other words, the purposes of the current study was to explore how parents' mental state communication is associated with children's purchase requests *through* active mediation. Because the present study assumed mental state communication as a potential positive predictor of parents' engagement in active mediation, which was suggested to be effective in reducing advertising effects in children (i.e., purchase requests; Buijzen, 2009), it was assumed that mental state communication would influence purchase requests *through* active mediation.

However, a direct negative effect of mental state communication on purchase requests is revealed from the current study. The result of the mediation regression model indicated that both direct and indirect effects of mental state communication on purchase requests are negative, therefore the total effect is also negative. In addition, the effect size of the direct effect ($\beta = -0.222$) is larger than that of the indirect effect ($\beta = -0.041$). Hence, one speculation was developed with an attempt to explain this unexpected and direct association between parents' mental state communication and children's purchase requests.

Previous research suggests that mental state communication by caregivers is positively associated with their perception of children as mental beings (Degotardi & Sweller, 2012). Meins coined a term *mind-mindedness* for this particular perception of children by caregivers (1997). In other words, caregivers' perception that believes their children as minded beings instead of simple creatures who need to be satisfied with their physical needs is called mind-mindedness (Meins, 1997).

This mind-mindedness is known to be positively related to caregivers' sensitivity toward children's signals (Laranjo, Bernier, & Meins, 2008; Lundy, 2003). The sensitivity is a parent's ability to decode and respond to a child's signals *appropriately* (Ainsworth, Bell, & Stayton, 1974). In an attempt to explore how parental behaviors affect parent-child attachment, Lundy (2003) conducted a study on how mind-minded comments by parents on children's signals and their appropriateness affect parent-child attachment. The study revealed that the two parental factors are positively associated with each other, and each of them predicted parent-child attachment. A similar study was done by Laranjo and her colleagues (2008), and the study also revealed that parents' mind-mindedness predicted their sensitivity or appropriateness in noticing and responding to their children's needs. From the study, maternal sensitivity and mind-mindedness were measured at the same time point, and parent-child attachment was measured three months later. The study revealed that the parental sensitivity mediated the association between mind-mindedness of parents and later parent-child attachment. Taken together, many of the research findings suggest that parents' mind-minded attitudes toward children are suggested to be associated with their sensitivity to children's signals.

Thus, parents who are mind-minded would tend to be more sensitive and responsive to

their children's signals. For this reason, it can be postulated that mental state communicating parents, who are more likely to be mind-minded, would appropriately notice and respond to their children's needs. This responsive attitude could have allowed them to notice their children's desire for advertised products before their requests. Hence, they might have fulfilled their children's needs or wants even before their children explicitly express their wants. Therefore, the responsive and sensitive attitude of mental state communicating parents may explain the negative association between mental state communication and purchase requests.

Mental State Communication and Theory of Mind

With the second mediator, ToM skills, the model tested whether there was a positive association between mental state communication and ToM skills and a negative association between ToM skills and purchase requests by children. Then, the model also tested the indirect effect of mental state communication on purchase requests through developed ToM skills. Unlike what literature suggests, however, the present study did not find a significant association between parents' mental state communication and ToM skills of children. The present study assumes that it is due to a discrepancy between the parent-reported and the actual ToM skills of children. Previous studies that explored the positive association between mental state communication by parents and ToM skills of children employed direct observational methods to measure children's ToM skills (e.g., Peterson & Slaughter, 2003). The current study, however, asked respondents to indicate their beliefs of their child's ToM skills (e.g., "My child understands that telling lies can mislead other people"). Thus, this parent-report measure could have missed some aspects of actual ToM skills of children, which might have resulted in its non-significant relationship with mental state communication.

Theory of Mind and Purchase Requests

One set of predictions explored whether ToM skills predicted purchase requests by children. The rationale behind the ToM skills of children as a negative predictor of purchase requests was based on a research finding that revealed a positive association between children's ToM skills and their understanding of advertising intent (Lapierre, 2015). Regardless of their age, according to Lapierre (2015), children with better ToM skills tended to show better understandings of selling intent (i.e., advertisements *intend to sell* the advertised products to the viewers). A further study done by Lapierre (2019) revealed that understanding of selling intent was negatively associated with purchase requests of children between 6 to 9 years old. Thus, it seemed likely that children's developed ToM skills would predict their purchase requests negatively.

However, the current study revealed that there is no significant relationship between ToM skills and purchase requests of children. This may be because of the younger age of the sample of the current study. According to Rozendaal, Buijzen, and Valkenburg (2009), there has been a view in children and advertising fields called "cognitive defense against advertising", which believes that advertising knowledge of a child would be helpful to reduce advertising effects in children. Rozendaal and her colleagues tested whether children's cognitive defense variables could moderate the positive association between advertising exposure and desire for advertised products (2009). The defense variables were recognition of advertising from the regular program, understanding of selling intent, and understanding of persuasive intent.

The study revealed that only understanding of persuasive intent was effective in reducing children's desire for advertised products (Rozendaal et al., 2009). In addition, this particular

effect was only found among children between 10 to 12 years old. Children younger than 10 were revealed to be more susceptible if they had understood the persuasive intent of advertising. A number of previous studies revealed that children are more likely to understand the selling intent of advertising earlier than persuasive intent (Rozendaal et al., 2009; Kunkel, 2010; Lapierre, 2015). For example, Lapierre (2015) conducted a study with children between 6 to 9 years old to explore how their cognitive development and persuasion knowledge are related. The study revealed that although a child's understanding of selling intent is positively associated with their persuasive intent understanding, their knowledge of selling intent is consistently higher than that of persuasive intent (Lapierre, 2015).

Thus, considering the age range of the children in the current study is between 3 to 7, there is a reasonable chance that the children in the current study did not fully acquire knowledge of selling or persuasive intent yet, which is known to be helpful in reducing advertising effects in older children (Rozendaal et al., 2009). In addition, for some of the children who acquired the knowledge of persuasive intent, the knowledge could have made them more susceptible to advertising messages, according to Rozendaal and her colleagues' findings (2009). In conclusion, children's ToM skills in younger ages might not work as a protector against advertising temptations. Therefore, a null relationship between ToM skills and purchase requests in the current study is understandable.

Authoritative Parenting and Mental State Communication

Baumrind (1996) described authoritative parents as responsive and respectful to their children's opinion. Also, they are known to utilize a discussion as a way to communicate with their children (Baumrind, 1996). In addition, Graves (2016) revealed that authoritative parents

are more likely to view their child as an individual who can think autonomously. This particular view, which is known as *mind-mindedness* (Meins, 1997), is known to be positively related to mental state communication by caregivers (Degotardi & Sweller, 2012). Therefore, the present study assumed a positive association between authoritative parenting and mental state communication. As expected, the present study revealed a positive association between authoritative parenting and mental state communication. The positive correlation between mental state communication and authoritative parenting appears to generate a negative association between mental state communication and active mediation.

Initially, the present study attempted to explore the independent influence of mental state communication on active mediation by controlling for authoritative parenting because authoritative parents were revealed to engage in more active discussions about advertising with their children (Carlson & Grossbart, 1988). Because the current study hypothesized a positive association between mental state communication and active mediation, the research question was whether the positive association would stay the same even when authoritative parenting is controlled.

However, the result revealed a *negative* association between mental state communication and active mediation. Moreover, the negative association was *only* significant when authoritative parenting was included in the model as a covariate. The negative association between mental state communication and active mediation *was not significant* in the zero-order correlation table. Thus, the result indicates that the positive association between mental state communication and authoritative parenting may influence the negative association between mental state communication and active mediation. Future research should investigate more in-depth to

establish a better understanding of why adding authoritative parenting as a covariate in the regression model clarifies the negative association between mental state communication and active mediation.

Limitation and Futures Research

There are some limitations with the current study. First, the study employed a cross-sectional survey methodology where causal relationships between variables cannot be established. Future research should conduct a longitudinal study to test the temporal ordering of these variables. Second, every variable was reported from a parent's perspective. Specifically, even children's cognitive skills (i.e., ToM) and their purchase requests are reported by parents where their subjective understanding of their child could distort their report. Therefore, this parental report method could have missed some aspects of actual ToM skills of children. Therefore, future research should employ other methodologies to measure children's variables more accurately and objectively. For example, researchers can observe actual parent-child shopping moments to measure children's purchase requests, and researchers can employ a ToM task battery to measure children's ToM skills.

Another limitation of the current study is the possibility of the respondents' social desirability. For example, authoritative parenting is known to be and appears to be an ideal parenting style (e.g., have strict rules but open to discuss the family rules with children). This might have caused mothers to fill out their surveys as if they are more authoritative than they actually are. The high mean value in their report of authoritative parenting style could be because of their social desirability. To resolve this problem, future research should include a measurement that measures an individual's general tendency of social desirability so that their

tendency of reporting socially desirable behaviors could be controlled.

The final limitation of the current study was the reliability of the mental state communication measurement. The scale was modified into a shorter version for this study to lower respondents' fatigue over the lengthy scale. The modification, however, may have lowered the respondents' attention to the survey options, which led to lower internal consistency. The lower reliability coefficient of the measure indicates increased measurement error and limits the power of the study. The low power of the study may make the associations revealed from the study less convincing. However, the current study first introduced mental state communication as a parental factor to the field of children's consumer socialization. The first attempt to look at this variable (i.e., parents' communication pattern that reflects their mental state awareness) and finding of low reliability of the measure may stimulate further investigations into this construct, and the current study's finding of the low reliability of this scale could offer fertile ground for future investigations (e.g., developing a more reliable scale).

In addition, there could have been a validity issue with the original MMSII scale from the original study. The study done by Peterson and Slaughter (2003), which created this MMSII scale for measuring parents' mental state communication, did not compare the actual parents' mental state talk through observations to their report on the MMSII scale. Instead, they tested the association between mental state communication measured by the MMSII scale and children's ToM skills to establish the measure's validity. Their study revealed a positive association between mental state communication and ToM skills as previous research suggests (Tompkins et al., 2018), so they concluded that the measurement is a valid scale. Therefore, if future researchers conduct a study that directly compares actual mental state communication done by

parents in observation settings and the result of their MMSII scores, they would find whether the MMSII scale is a valid measure of parents' mental state communication. In other words, the study would illuminate further avenues of inquiry to improve for a potentially more valid measure of this construct. Creating a survey scale for this construct will be beneficial for many researchers in relevant fields since observation would cost them a lot of resources (e.g., time and money). Therefore, future research should improve the MMSII scale to benefit many scholars in the relevant fields.

Conclusion

This study introduced mental state communication to family communication and consumer socialization of children for the first time. The purpose of the current study was to suggest that mental state communication as a potential factor that can contribute to reducing children's purchase requests through other variables, which are suggested to be relevant to children's consumer behaviors previously. However, it was revealed that it has a direct and negative effect on purchase requests. Moreover, the two mediators (i.e., active mediation and ToM skills) which are suggested to reduce advertising effects in children turned out to be either positively associated or not associated at all with purchase requests by children. Thus, the present study introduced another important parental behavior that can contribute to reducing advertising effects in children. Future studies should develop a better survey scale to capture this construct and investigate whether the negative association between mental state communication and purchase requests still holds with the new measurement.

Table 1. Zero Order Correlations for All Variables of Interest

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Child age (months)	0.050	.260**	0.081	.102*	-0.074	0.085	0.001	0.065	.274**	.417**	.188**
2. Child gender (1=male, 2=female)		0.044	0.016	0.015	0.040	0.088	-0.029	-0.052	0.072	.118*	0.030
3. Parent's age (years)			.280**	0.038	-0.040	0.001	-0.035	.111*	0.089	.103*	0.009
4. Gross family income				-.168**	-0.077	-.127**	0.039	0.067	0.013	.097*	-0.039
5. Media Exposure (hours/week)					0.062	0.060	.243**	-0.008	0.024	0.083	.301**
6. Parent-Child Co-Shopping						.172**	.097*	.101*	0.041	0.052	.124*
7. Authoritative Parenting							.156**	.207**	.166**	.409**	.154**
8. Emotional Reactivity								0.023	0.046	0.084	.226**
9. Mental state communication (five items)									-0.080	.126*	-.213**
10. Active mediation										.227**	.362**
11. Theory of Mind											.178**
12. Purchase requests											

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 2. Mediation Regression Model with Mental State Communication, Active Mediation, Theory of Mind, and Purchase Requests

Variable	Active Mediation			Theory of Mind			Purchase Requests		
	b	LLCI ULCI	β	b	LLCI ULCI	β	b	LLCI ULCI	β
Constant	0.656	0.051 1.261		0.792	0.451 1.133		13.951	10.340 17.562	
Child's age	0.011	0.007 0.015	0.270**	0.010	0.008 0.112	0.373**	0.021	-0.004 0.045	0.079
Gross family income	0.005	-0.016 0.026	0.024	0.017	0.005 0.028	0.118**	0.042	-0.079 0.164	0.030
Media Exposure	-0.0002	-0.005 0.004	-0.004	0.001	-0.002 0.004	0.034	0.082	0.056 0.108	0.273**
Parent-child Co-shopping	0.041	-0.025 0.108	0.059	0.012	-0.025 0.050	0.027	0.476	0.091 0.861	0.106*
Authoritative Parenting	0.227	0.099 0.355	0.172**	0.319	0.247 0.391	0.374**	0.753	-0.061 1.157	0.089
Mental State Communication	-0.086	-0.144 -0.028	-0.141*	0.005	-0.028 0.037	0.017	-0.872	-1.277 -0.530	-0.222**
Active Mediation							1.846	1.277 2.416	0.288**
Theory of Mind							0.356	-0.656 1.367	0.036

* p < 0.05, ** p < 0.001

Table 3. Total, Direct, and Indirect Effects of Mental State Communication on Purchase Requests

	B	Bootstrap S.E.	Bootstrap LLCI	Bootstrap ULCI
Total Effect	-1.030	0.180	-1.383	-0.676
Direct Effect	-0.872	0.174	-1.213	-0.530
Indirect Effect				
Total	-0.158	0.063	-0.299	-0.045
Active Mediation	-0.160	0.062	-0.296	-0.049
Theory of Mind	<i>0.002</i>	<i>0.012</i>	<i>-0.025</i>	<i>0.025</i>

With 95% confidence intervals, 5000 bootstrap samples were used for this analysis. The *italicized* line indicates the non-significance of the effect.

Figure 1. A Parallel Mediation Model with Two Mediators

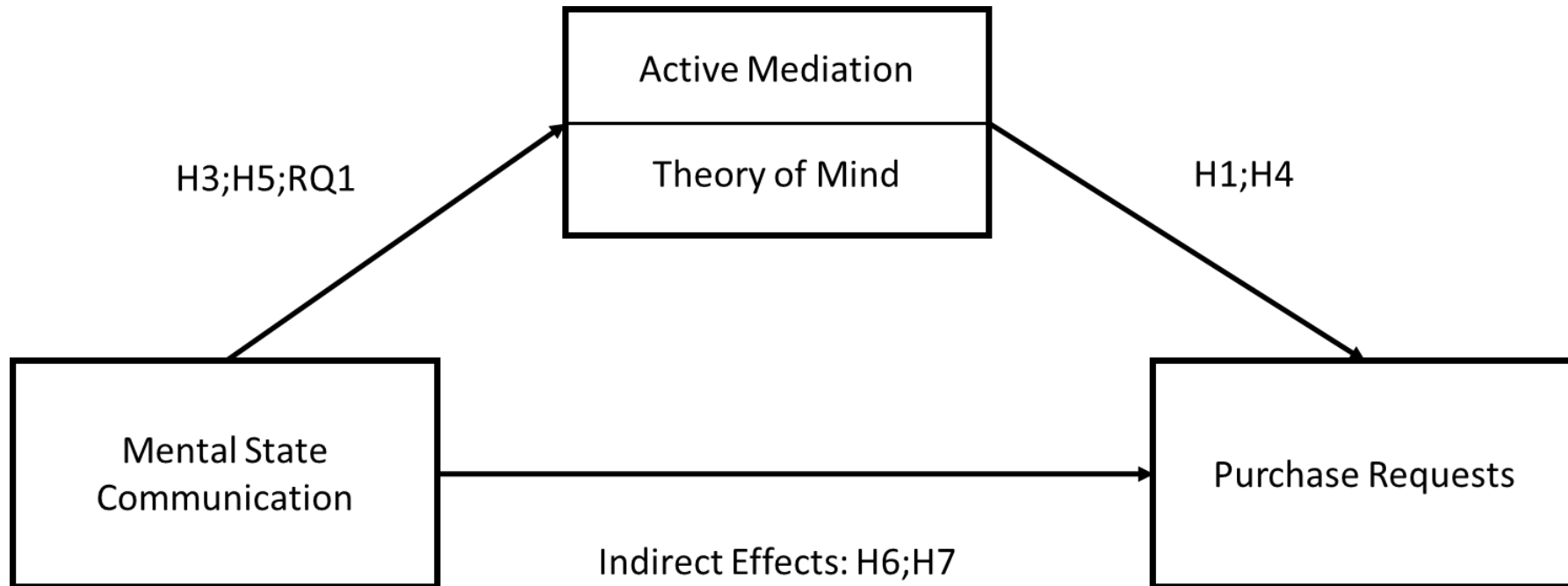
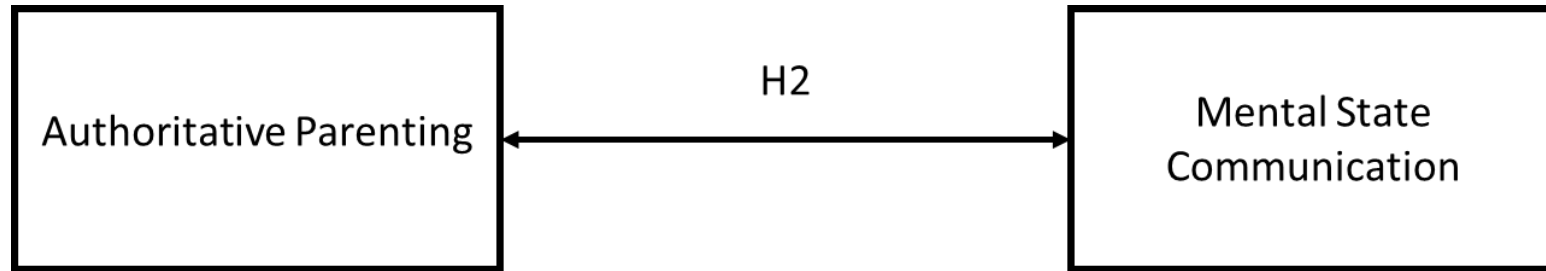


Figure 2. A Correlation between Authoritative Parenting and Mental State Communication



Appendices

Appendix A – A Tetrachoric Correlation Table of Mental State Communication Scale (MMSII)

	M	SD	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. MSC1-eggs in the kitchen	0.80	0.397	-0.086	0.471*	-0.190	0.198*	0.070*	0.001*	0.039*	0.234*	0.137*	0.315*	-0.085
2. MSC2-Fruit basket play	0.38	0.485		-0.074	0.113*	-0.078	-0.023	-0.083	0.038*	0.082*	0.109*	0.010*	0.024*
3. MSC3-dad's birthday present	0.88	0.321			-0.111	0.317*	0.127*	-0.09	-0.004	0.045*	0.005*	0.289*	-0.154
4. MSC4-dog barking	0.22	0.417				-0.372	-0.073	-0.145	-0.119	-0.284	-0.085	-0.149	0.037*
5. MSC5-lost keys	0.70	0.459					0.229*	0.073*	0.116*	0.313*	0.093*	0.219*	-0.038
6. MSC6-keys found	0.64	0.482						0.092*	0.075*	0.192*	-0.069	0.087*	0.028*
7. MSC7-I spy game	0.46	0.499							0.136*	0.205*	0.039*	0.157*	0.108*
8. MSC8-play at the beach	0.55	0.498								0.003*	0.045*	0.027*	0.046*
9. MSC9-the empty water bottle	0.72	0.451									0.089*	0.247*	0.068*
10. MSC10-neighbor phone call	0.47	0.500										0.225*	-0.026
11. MSC11-grandpa's present	0.67	0.472											-0.032
12. MSC12-ghost train	0.52	0.500											

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix B – Parental Authority Questionnaire – Revised (PAQ-R)

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
1. Once family rules have been made, I discuss the reasons for the rules with my children					
2. I always encourage discussion when my children feel family rules and restrictions are unfair					
3. I direct the activities and decisions of my children by talking with them and using rewards and punishments					
4. My children know what I expect from them but feel free to talk with me if they feel my expectations are unfair					
5. I tell my children what they should do, but I explain why I want them to do it					
6. I listen to my children when making decisions, but I do not decide something simply because my children want it					
7. I have clear standards of behavior for my children, but I am willing to change these standards to meet the needs of the child					
8. I expect my children to follow my directions, but I am always willing to listen to their concerns and discuss the rules with them					
9. I set firm guidelines for my children but am understanding when they disagree with me					
10. If I make a decision that hurts my children, I am willing to admit that I made a mistake					

Appendix C – Children’s Social Understanding Scale – the short version

	Strongly Disagree	Disagree	Agree	Strongly Agree
Belief				
1. My child understands that telling lies can mislead other people.				
2. My child talks about how her/his beliefs have changed over time (e.g., “I used to think that drinking from a cup is hard; now I think it is easy”).				
3. My child talks about people’s mistaken beliefs (e.g., “He thought it was a dog, but it was really a cat”; “I thought mommy was coming, but it was really daddy”).				
Intention				
4. My child talks about the difference between intentions and outcomes (e.g., “He tried to open the door, but it was locked”).				
5. My child has trouble figuring out whether you are being serious or just joking. (R)				
6. My child understands that hurting others on purpose is worse than hurting others accidentally.				
Knowledge				
7. My child realized that experts are more knowledgeable than others in their specialty (e.g., doctors know more than others about treating illness).				
8. My child uses words that express uncertainty (e.g., “We might go to the park”; “Maybe my shoes are outside”).				
9. My child is good at playing “hide and seek” (e.g., is hard to find, does not make give-away noises).				
Perception				
10. My child talks about the difference between the way things look and how they really are (e.g., “It looks like a snake, but it is really a lizard”).				

11. When talking on the phone, my child behaves as if the listener can actually see her/him (e.g., assumes that the listener knows what she/he is wearing). (R)				
12. My child is good at directing people’s attention (e.g., points at things to get others to look at them).				
Desire				
13. My child talks about the difference between what people want and what they actually get (e.g., “She wanted a puppy, but she got a kitten”).				
14. My child takes into account what others want (e.g., takes turns, shares toys, compromises with other children regarding which game to play, etc.).				
15. My child talks about differences in what people like or want (e.g., “You like coffee, but I like juice”).				
Emotion				
16. My child understands that different people can have different feelings about the same thing (e.g., one child likes a dog, but another child is scared of it).				
17. When given an undesirable gift, my child pretends to like it so as not to hurt the other person’s feelings.				
18. My child talks about conflicting emotions (e.g., “I am happy to go on vacation, but I am sad about leaving friends behind”).				

(R) indicates that the item was reverse coded.

Appendix D - Active Advertising Mediation

	Never	Sometimes	Often	Always
1. How often do you tell your child that advertising depicts products as better than they really are?				
2. How often do you tell your child that advertising does not always tell the truth?				
3. How often do you tell your child that the purpose of advertising is to sell products?				
4. How often do you tell your child that not all advertised products are of good quality?				
5. How often do you tell your child that some advertised products are not good for children?				

Appendix E – Maternal Mental State Input Inventory (MMSII)

Instructions

Here are 12 stories each describing a parent with a young child. We would like you to try to imagine that you are that parent and that the child in the story is (Your Child’s Name) during the year when he or she turned 4. There are two response choices given with each vignette.

These describe ways a parent might handle the situation. Your task is simply to choose your preferred choice or the one you would be most likely to use. There are no right or wrong answers to any of these items. Each choice has advantages and disadvantages, depending on the child’s individual nature and the family’s unique circumstances. Accordingly, please be realistic and answer in terms of your best estimate of your own actual behavior, either as you recall it, or as you imagine it would be.

If you read the instructions, please click "yes" below.

(#) NEMS (*) NENMS

#1. ‘In the Kitchen’

Yesterday, Mom promised Joyce, age 4 years, that the two of them would bake a cake together. They went shopping this morning. But Mom had left her shopping list behind, and completely forgot to buy eggs, and there are no eggs at home. Now Joyce is asking if they can bake the cake soon. Mom says:

(*) “Joyce there are no eggs. Let’s bake shortbread instead of a cake because shortbread tastes yummy and we do not need eggs to make it.”

(#) “Joyce, I forgot to buy eggs. Let's bake shortbread instead of a cake because shortbread tastes yummy and we do not need eggs to make it.”

#2. ‘Fruit Basket’

Mom and Jake, age 4, are waiting in a motel room for Dad to come back. They have been there for a while, and Jake is starting to show signs of boredom. None of his toys or books are with them, but there is a big bowl of fruit in the room. Noticing Jake’s impatience, Mom says: “Jake let’s play a game with the fruit basket.” The game Mom suggests is:

(*) ‘Hide and Seek’: Mom hides her eyes and tells Jake to hide each of the pieces of fruit somewhere in the room and then she will look for them and so on.

(#) ‘Drawing’: Mom takes a pencil and paper from her handbag and draws a long pointed cylinder, saying it is the banana. Then she asks Jake if he would like to draw a picture of the apple, and so on.

#3. 'Dad's Birthday'

This morning Mom and John, age 4, went shopping and picked out a special gift for Dad's birthday, which is coming up in 2 days. As they wrap the present together, John remarks that he can hardly wait for Daddy to come home this evening so he can tell him what they've bought for him. Mom says:

(*) "John, don't tell Dad what we've bought him, that's not allowed. Wait until his birthday and then he'll open the present."

(#) "John, don't tell Daddy what we've got him. We want him to be surprised on his birthday."

#4. 'The Dog Barking'

Spot, the family dog, passes in front of the sliding glass door one evening after dark and begins to bark excitedly. Jane, age 4, turns to Mom and asks: "Mom, why is Spot barking?" Mom replies:

(*) "Dogs bark for lots of reasons: Maybe he is barking at his reflection. Or maybe he hears or sees something outside in the courtyard."

(#) "Maybe he heard a noise outside and thinks that there is someone prowling around in the courtyard."

#5. 'Lost Keys'

Mom tossed her keys onto the seat of the sofa and then rushed out of the room to answer the phone. While she was gone, the keys slid down a big crack between the cushions and disappeared from view. Emma, age 4, watched at this happening. Now Mom is coming back. She needs the keys and decides to search for them. First she looks all over the sofa and the table beside it. Then she has an idea. Firmly believing she left the keys on the bedside table where the phone is, she heads back to the bedroom to retrieve them. Emma follows her, asking "Why are you going into the bedroom again, Mom?" Mom says:

(*) "To get the keys: I need the keys to unlock the garage. They are probably by the phone."

(#) "To get the keys: I need them to unlock the garage and I don't know where they are, so I'm going to look for them by the phone."

#6. 'Keys Found'

Following on from the previous vignette, Emma says: "but, Mom, your keys are not in the bedroom. I saw them slip down behind the cushions of the sofa. That is where they still are, in the living room." Mom says:

(*) "Oh what a relief! Let's unlock the garage quickly and then we play for a while outside."

(#) "Oh what a relief! That was very clever of you to notice the keys and to tell me where they were when you couldn't see them."

#7. 'I Spy'

Mom and Jeremy, age 4, are playing a guessing game called 'I Spy with My Little Eye.' The rules they play by are like this: One person thinks of something that they can see in the room and says nothing about it except what color it is. The other person then has 10 guesses to discover what object they have singled out. If they get it right in less than 10 guesses they win and get a point and an extra turn. On this particular day, Jeremy has begun to lose patience because Mom keeps winning and he keeps losing. Each time it's Mom's turn, she identifies his secret item on the first or second guess. But he can never manage to get hers right within the 10 turns allowed. Jeremy frustrated asks Mom how come she always guesses right. Mom says:

(*) "Maybe I am just lucky. Don't feel bad. We can play something else."

(#) "If you don't want me to guess what you are thinking about then you must be sure you don't look at it."

#8. 'At the Beach'

Mom and Christa, age 4, are at the beach. They have been in the water for quite a while and Mom thinks Christa may be getting too cold. She suggests getting out, but Christa is reluctant to get out of the splashing waves that she is enjoying quite a bit. Mom thinks it would be a good idea to play on the sand for a while and suggests the following game:

(*) 'Digging tunnels': They will each sit opposite one another on the sand, a short distance apart, and try to dig a tunnel towards each other until their hands met.

(#) 'Shell garden': They will draw a design in the sand that they will pretend is a garden. They will add decorations to it by finding bits of shell, pebbles, and seaweed to represent flowers and shrubs.

#9. 'The Empty Water Bottle'

Mom is collecting Kevin, age 4, from preschool, and meets a friend at the gate. They are conversing when Kevin comes up. So Mom does not notice that Kevin has slipped his empty water bottle into her things, sliding it under the cover of her shopping basket. The friend leaves, and Mom says to Kevin, "Quick run back into your classroom and get your water bottle: You forgot to bring it!" Kevin looks a little puzzled but hurries obediently back inside. Then Mom opens her basket and sees the water bottle. She goes in and collects Kevin, saying:

(*) "Come on Kevin. We have your water bottle after all. Let's go home."

(#) "Come on Kevin. Your water bottle is in my basket. I didn't see you put it there, so I didn't know we had it. Let's go home."

#10. 'Phone Call'

Mom and Susan, age 4, are together in the kitchen when the telephone rings. Mom listens to the other person on the phone and then smiles happily, saying "Oh yes, I would LOVE to come!" After she is off the phone Susan asks: "Who was that on the phone, Mom?" Mom frowns unhappily, saying "It was the next door neighbor. She has invited me over to look at her holiday photos. I really do not want to go!" Mom exclaims. "But, Mom" says Susan, "You looked very happy just now when she invited you, and you told her you wanted to go. Why was that?". Mom says:

(*) "It's polite to be cheerful and agreeable when someone gives you an invitation," says Mom.

(#) "I was pretending to be happy because I did not want to hurt our neighbor's feelings" says Mom.

#11. 'Grandpa's Present'

Mom and Joshua, age 4, are visiting Grandpa in his high-rise unit. While they are there, he receives a parcel in the mail and opens it. It is a card from an old friend enclosing a packet of seeds. Grandpa sighs and looks unhappy. On the way home, Joshua asks Mom why Grandpa was sad when he got such a nice present of flower seeds. Mom says:

(#) "Not everyone likes the same things. You and I would like seeds but Grandpa doesn't have a garden and doesn't need or want seeds."

(*) "Grandpa told me that he was very happy to see me and was very VERY happy to see you. We had a lovely afternoon with him, didn't we? And that was a lovely, yummy tea he fixed for us."

#12. 'Ghost train'

Mom and Hank, age 4, went to a theme park and had a ride through a stage set that was set up to resemble a haunted house. As they emerge from the dark house which had been well-equipped with authentic-looking ghosts, witches and monsters, Mom has a tense expression on her face. "Why are you scared Mom?" Hank asks somewhat anxiously. "Are those ghosts real?" Mom says "_____."

(*) "No, they are not real, dear. Now let's ride the carousel. It is lots of fun."

(#) "No, they are not real, dear, only pretend, and I wasn't really scared but I pretended to feel that way."

Appendix F - Children’s Purchase Requests

	Never	Rarely	Often	Always
Toys				
Computer games or video games				
Clothes				
Sweet snacks (candy, chocolate, cookies, etc.)				
Salty snacks (potato chips, salty crackers, etc.)				
Cereal (Kellogg’s, Cheerios, etc.)				
Fast-food restaurants (restaurants without waiter service, such as McDonald's, Kentucky Fried Chicken (KFC), etc.)				
Non-fast-food restaurants (restaurants with waiter service, such as a pizza restaurant, a steak house, etc.)				
Sugary drinks (sweetened fruit juice, soda/pop, energy drinks, etc.)				

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