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Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA, MERCED

Caregivers' Prohibition to Infants' Transgression During a 10-minute Free Play

A Thesis submitted in partial satisfaction of the requirements  
For the degree of Masters of Arts

in

Masters of Arts

by

Derrick B. Ocampo

Committee in charge:

Professor Eric Walle, Chair  
Professor Jennifer Hahn-Holbrook  
Professor Rose Scott

2021

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The thesis of Derrick B. Ocampo is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Jennifer Hahn-Holbrook

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Rose Scott

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Eric Walle, chair

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## **Abstract**

Caregivers' Prohibition to Infants' Transgression During a 10-minute Free Play

by Derrick B. Ocampo for the partial satisfaction of the requirements for the degree of  
Master of Arts in Psychological Sciences University of California, Merced 2021  
Dr. Eric Walle, Chair

Prohibition is an important tool a caregiver uses to teach their child how to behave in a public setting and is usually brought upon during a transgression. To date, the extent to which caregivers prohibit children younger than 14-months and how that is related to compliance behaviors is not well understood. We do know from previous research (e.g., Dahl, 2016) that the type of transgression influences how a caregiver chooses to respond. The present study examined how caregivers prohibited their 12- and 13- month-olds' behaviors during a transgression that occurred during a 10-minute free play session in a laboratory setting. We had three predictions: 1. caregivers would prohibit with physical intervention over other forms of prohibitions (e.g., verbal), 2. softening responses from caregivers would lead to more compliance behaviors in infants, 3. valence would be predictive of compliance/non-compliance. Results found that caregivers prohibited with physical intervention over verbal commands. Frequency of softening behaviors from the caregivers resulted in more compliance. Valence was not a predictor of compliance/noncompliance. These findings add to our understanding on how prohibitions during a transgression are related to compliance in children younger than 14-months.

*Key words:* prohibitions, transgressions, infants, compliance

## Introduction

Prohibition is defined as the degree that caregivers regulate what behaviors are allowed and forbidden for their children in a given situation (Vansteenkiste, Soenens, Van Petegem, & Duriez, 2014). Prohibition is an important socialization tool parents use to teach the child what behaviors are allowed and assist in moral development (Kuczynski & Kochanska, 1990; Kuczynski, Kochanska, Radke-Yarrow, & Brown 1987). To date, the majority of transgression research has looked at children 14 months and older with minimal work observing infants at younger ages. Moreover, prior work done with infants younger than 14 months has involved the use of a home observation (Tulkin & Kagan, 1972), and not a controlled environment such as a lab setting. This study examined caregivers' prohibition behaviors and infants' compliance during a transgression that was observed during a 10-minute free play session in a lab.

### Caregiver Prohibitions

Prohibition is an important component to parenting and teaches children values on how to behave at home and in a public setting (Dunn & Munn, 1985). Caregivers hope that by prohibiting an infants' actions early in life it will instill morals and values that the child will remember into adulthood (Essler & Paulus, 2020). Prohibiting a child's behaviors can serve both short- and long-term functions. For example, a parent might prohibit a child attempting to eat a magnet by forcefully taking the object away and then providing a verbal explanation for why this specific behavior is prohibited. Thus, the child internalizes the message and does not repeat the prohibited act (i.e., eating a magnet) at a later time.

Prohibition from the caregiver to the child is usually in response to a transgression. Previous work (e.g., Dahl, 2016; Smetana, 1989) has typically classified transgressions into four different types: conventional (i.e., breaking of social norms), moral (e.g., hitting others), pragmatic (i.e., causing an inconvenience), and prudential (i.e., committing a dangerous act). Prohibitions can be studied both in novel lab settings and in environments familiar to the family such as the home. In a lab setting the researchers create the environment and may preselect a behavior that the caregiver must prohibit their child from doing, such as grabbing toys from a shelf (e.g., Kochanska & Aksan, 1995). During a home observation, caregivers are usually given more autonomy as to which of their child's behaviors to prohibit. Thus, studies that employ a home observation method allows researchers to examine different types of transgressions and how caregivers' respond to them. For example, Dahl (2016) observed 14-, 19-, and 24-month-olds and their families in their home for a 2.5-hour session. The investigator examined mothers' responses to infant transgressions. Findings indicated that mothers used more direct forms of insistence behaviors (i.e., physical interventions) when their child committed moral than pragmatic or prudential transgressions. Furthermore, direct commands rather than indirect commands were used more in response to moral transgressions than pragmatic or prudential. These results are in line with mothers in the study reporting that moral transgressions were more important to address, and a physical intervention is the more direct way to prohibit that action. A drawback to a home-based approach can be inability to detect differences in prohibition responses between

transgression types due to caregiver variability of what constitutes a transgression. In addition, the caregiver and infant are familiar with their environment which may decrease transgressions that occur since the parent has more control of the room layout. A benefit of a lab observation is it affords the researchers the opportunity to create the environment. Specifically, they can control elements in the room that will elicit the same type of transgression for each child such as grabbing objects off a bookshelf (pragmatic transgression). Thus, the lab setting can allow researchers to examine prohibitions caused by similar eliciting events.

Expressed affect is another effective tool that caregivers use to prohibit a child's misbehaviors, and its usefulness similarly varies depending on the type and frequency of the transgression. Caregivers can use different discrete emotions to communicate the extent to which a child's behavior is prohibited. The use of emotions to prohibit a child's behavior can be beneficial as they can be used as a tool to immediately get the child's attention. For example, using a fearful tone while prohibiting a child from touching the hot stove on the other side room may cause the child to immediately look at the parent and stop reaching. Thus, this pause in the child's behavior would allow the parent the opportunity to physically intervene by moving the child away from the stove. Dahl, Sherlock, and Campos (2014) examined how mothers varied their tone of voice in accordance with the type of transgression. They found that mothers displayed more anger-like tones when a child committed a moral transgression and used fearful tones in response to prudential transgressions. Furthermore, pragmatic transgressions elicited a more playful response tone from mothers than did moral transgressions. Positive affect displayed from a caregiver to the child during a transgression can be used to "*soften the blow*" and result in the child to not feel embarrassed or ashamed, which increases the likelihood they accept the message from the parent (Kochanska & Aksan, 1995).

Thus, prohibition is an important tool caregiver uses to teach their child "*right*" from "*wrong*" and assist in developing long-term values and morals. Prohibition can be examined in both a controlled lab setting or less controlled environment such as the family's home. A main goal of prohibition both in short- and long-term is the prospect the child will comply to the caregiver's request and no longer repeat the act immediately and in the future.

### **Infant Compliance**

Kuczynski et al. (1987) define compliance as an immediate obedience to a parent's initial request or directive during an intervention. Although compliance may appear to be a binary variable (i.e., child complies or does not comply), previous research on this construct has broken it down into multiple categories (Hendrix & Thompson, 2011; Koenig, Cicchetti, & Rogosch, 2000; Kochanska, 1997). The category adopted by many in the field as the most desired response by the child after a parent prohibits is termed *committed compliance* (Kochanska, 1997). Kochanska and Aksan (1995) define committed compliance as the child willingly accepting the caregiver's agenda and being eager to endorse it. Although committed compliance is the goal when a caregiver prohibits a child's behavior, there are instances where a child may not fully comply with a caregiver's intervention. *Partial compliance* is defined as instances in which a child

initially responds to a caregiver's request (e.g., stops touching an object), then ignores the request and engages in the prohibited action (Kochanska & Aksan, 1995).

By contrast, children who are unwilling to accept the prohibitions from their caregiver (non-compliance) can be separated into two distinct forms (e.g., Kochanska & Aksan 1995). *Passive non-compliance* occurs when a child is hesitant to accept the mother's agenda. Children who display passive non-compliance may ignore a caregiver's intervention, but do not overtly refuse it with reactions such as displaying negative affect. Conversely, *defiance* is used to categorize an overt rejection of a caregiver's agenda. Children who display defiant behaviors openly reject a caregiver's request, usually by displaying negative affect such as whining or having a temper tantrum.

A short- and long-term goal during a prohibition is for the child to comply and has been examined in multiple dimensions rather than a binary construct. Committed compliance has been the operational term used in previous work (Kochanska, 1997; Kochanska & Aksan, 1995) to describe the most desirable behavior from the children during a prohibition, whereas direct defiance is the least desirable reaction. There have been age-related differences reported in parent prohibition and the likelihood of compliance.

### **Developmental Changes in Parent Prohibition and Child Compliance**

Between 2-3 years of age there is an increase in moral transgressions in comparison to children younger or older than that age range (Dahl, 2016; Essler & Paulus, 2020). Children are more likely to display antisocial behaviors, such as biting or kicking their siblings, regardless of whether they are provoked. It is not until the end of the child's second year that children decrease their unprovoked antisocial behaviors (Dahl, 2016). Around 36 months children are more likely to engage in conventional transgressions when compared to children at 24 months (Much & Shweder, 1978; Smetana, 1984). Furthermore, Dahl and Kim (2014) reported that 3- to 5-year-old children are capable of understanding that pragmatic and prudential transgressions are wrong. Thus, evidence suggest that the four types of transgressions described above emerge early in life and before children enter kindergarten, they have an understanding those behaviors are wrong.

The age of the child plays a role in compliance behaviors. Based on prior work it would appear that young infants display an increase in noncompliance to prohibitions early on, then are more likely to comply as they get older. For example, Kuczynski et., (1987) reported that younger children (18 months) were less likely to comply to parental interventions than older children (42 months). A similar age-related change in noncompliance was also noted in Kuczynski and Kochanska (1990). Kochanska and Aksan (1995) found that positive affect was related to committed compliance in 26- to 41-month-olds. In this study, parent and child were observed alone and given a task that elicited a "Do" and "Don't" response. They found that mother-child shared positive affect was a significant predictor of committed compliance. Furthermore, it was reported there were age related differences such that children between 36- to 41-month-olds were more likely to display committed compliance than the 26- to 30-month-olds. Kochanska (1997) was able to replicate that previous finding using a longitudinal design. Parent-child interactions were examined at two time points when the children were 26-41

months and at 43-56 months, revealing that parent use of positive emotions at Time 1 predicted children's internalization of values and morals at Time 2.

There is also evidence that a child's mobile abilities influence caregivers' prohibitions. Biringen, Emde, Campos, and Applebaum (1995) reported that early walkers had more conflict and positive exchanges with their mothers than later walkers during an observation. Furthermore, Biringen, Campos, and Emde (2008) found that infants classified as *earlier* walkers (10 months for boys, and 13 months for girls) engaged in more prohibitions than children labeled as *later* walkers when age was held constant. These findings are not of surprise since an increase in child's mobility opens the opportunity to be autonomous and engage in transgression than crawling infants. (Green, Gustafson, & West, 1980).

An understudied age group in the prohibition and compliance development literature are infants between 12 to 13 months. This is an important developmental period to examine due to this being around the age to which children begin transition from crawling to walking (Biringen et al., 1995). This transition from crawling to walking increases the opportunity for a child to explore their surroundings more and can increase transgressions. Thus, this developmental transition creates more caregiver-child interactions. These developmental milestones are why it is important to examine prohibition and compliance development in 12- and 13-month-olds. There has been previous work on these ages, but most observed the family in a location they are more familiar with such as their home. Furthermore, work that has examined infants younger than 14 months in a home observation included only female children (Tulkin & Kagan, 1972) or involved a researcher during the prohibition task (Hendrix & Thompson, 2011) with very little work studying children younger than 14 months. There has been a study that examined verbal prohibitions in the homes of 10-month-olds (e.g., Tulkin & Kagan), but none has examined mobile infants (i.e., 12-13 months) and in a more controlled setting (lab).

### **The Present Study**

This study observed caregiver's prohibitions to 12- and 13-month-old infants in a naturalistic free play observation in a laboratory setting. Caregivers were given no explicit instruction on which behaviors to prohibit. The caregiver was asked to complete a distracting task (i.e., questionnaire), which allowed the infant the opportunity to explore their surroundings and engage in prohibited actions.

In line with previous parent responses reported by Dahl and Campos (2013), we predicted that parents would use more physical intervention to prohibit children's transgression than distractions and verbal prohibition. It was also predicted that caregivers use of softening would result in more compliance than verbal prohibitions. This prediction was based on previous work (Kochanska, 1997) that reported more parental negotiation strategies rather than mothers asserting their power resulted in more child cooperation. In addition, because infants in this study (12 and 13 months) had limited language abilities, a softening response, such as soothing (e.g., rubbing the child's back) or providing a positive emotion (e.g., smiling), may be a more effective prohibition than verbal reasoning. Finally, in line with work by Kochanska (1997) and Hendrix and Thompson (2011), we predicted that the caregivers' valence during prohibition would be

related with child compliance. Specifically, caregiver use of positive valence would result in more child committed compliance and use of negative valence would result in more child defiance.

## Methods

### Participants

A total of 51 infant-caregiver dyads were included in this study. Infants (26 female) ranged from 12 to 13 months ( $M = 12.57$ ,  $SD = .33$ ). The ethnicity of the infants was: Caucasian/White = 26, Indian = 1, Black = 4, South American = 1, Asian = 2, Hispanic = 1, Mixed = 5, Other = 1, and Not Reported = 10. The primary caregivers' level of education was: Some High School = 1, High School Diploma = 6, College Degree = 20, Graduate Degree = 21, Other = 3. Reported household income was: < \$25,000 = 1, \$25,000-\$40,000 = 1, \$41,000-\$60,000 = 8, \$61,000-\$80,000 = 7, \$81,000-\$100,000 = 6, \$101,000-\$120,000 = 6, \$121,000-\$150,000 = 13, and > \$150,000 = 13. Families were recruited from the San Francisco Bay Area.

### Procedure

**Free Play Session.** Free play video recordings were obtained during a lab visit during which families participated in multiple lab studies. Families were recruited from the participant pool maintained by the University of California, Berkeley.

A 10-minute naturalistic free play session was used to observe caregiver-infant interactions. During the free play session, the caregiver was asked to sit in a chair and complete a lengthy questionnaire that included a locomotor and vocabulary questionnaires. Although the caregiver began seated in a chair, they were given no explicit instructions to remain seated in the chair during the free play session. Thus, the caregiver and infant were free to interact and explore the room. The free play session room (see Figure 1) was 3m X 5m space. The room featured a toy area for the infant and was designed with the potential to elicit infant transgressions by featuring areas and items of interest that the infant might choose to explore (e.g., bookshelf, magnets on office desk drawers) in locations around the room. A baby gate was used to restrain the infant from exploring areas that would be out of the caregiver's visual field. A video camera was placed behind the baby gate that recorded the free play area. A researcher was positioned behind the baby gate to answer any questions from the caregiver and to monitor the free play space to ensure that infant did not come to harm.

**Coding.** The first coder that knew the hypotheses coded all the 10-minute free play session using Datavyu coding software. The researcher identified: (1) onset and offset of the transgression episode, (2) onset and offset of caregiver response to the transgression, and (3) type of transgression (i.e., prudential or pragmatic). Criteria for the onset and offset coding is provided in Table 1. Next, the researcher coded the three variables of interest: (1) caregiver responses to the transgression, (2) infant and caregiver emotion, and (3) infant compliance. A detailed description of each variable is provided in Tables 2-4.

Transgression types were based off Dahl (2016) classifications of different transgression forms and classified as either *prudential* or *pragmatic*. If the researcher could not decide between the type of transgression the more dangerous form (e.g., prudential) was used.

The prohibition coding scheme was adopted from Dahl (2016) and Kochanska & Aksan (1995) with modifications to fit the needs for this study. For example, we added a

physical redirect category to account for when caregivers intentional moved their child away from the prohibited behavior. Since children in this study were in the process of transitioning from crawling to walking and had limited language comprehension abilities, we suspected that caregivers would provide more physical insistence to direct their child to another location within the playroom. Prohibition types were not mutually inclusive. Thus, a prohibition could be coded as a both verbal prohibition and also a physical intervention if the responses occurred simultaneously.

Caregiver valence code definitions (Table 3) were based on prior research coding of parent emotional expressions (see Walle & Campos, 2014).

Compliance types (Table 4) were adopted from previous work done on child compliance (e.g., Kochanska & Akan, 1995; Kuczynski et al., 1987) and modified to include passive compliance. We chose to adopt passive compliance instead of *situational compliance*, a term used in previous research, because parent-child interactions were only observed for 10 minutes and in one location. Thus, it was unknown if a child would comply in other situations. In most cases, passive compliance was coded for when a caregiver physically redirected their infant away from the prohibited action.

A reliability coder that was naïve to the hypotheses coded a random subset of 25% of the videos. The reliability coder was given a blank Datavyu file with timestamps of segments and instructed to code the behaviors in each identified segment. Disagreements in the coding between the primary coder and reliability coder were discussed to improve future coding, but the original codes were maintained in the analyses and the assessment of reliability. Reliability for each of the variables ranged from  $K_{\text{Cohen}} = .68$ -1.00 and were rated as substantial to almost perfect: transgression type ( $K_{\text{Cohen}} = 1.00$ ), prohibition ( $K_{\text{Cohen}} = .69$ ), caregiver valence ( $K_{\text{Cohen}} = .79$ ), and infant compliance ( $K_{\text{Cohen}} = .68$ ). These reliability criteria were based off of recommendations from Landis and Koch (1977).



## Results

Of the 51 dyads observed, 40 dyads had at least one transgression episode. A total of 117 transgression episodes were coded ( $M = 2.29$ ,  $SD = 2.28$  per dyad). The average length of each transgression episode was 75.13 seconds. Of the 117 transgression episodes, 103 (88%) were pragmatic and 14 (12%) were prudential. A total of 439 caregivers' responses (including no response) to the transgressions were coded ( $M = 8.61$ ,  $SD = 9.95$  per dyad). Instances in which the caregiver did not respond or ignored the infant (21) were excluded from the final analyses. Thus, the reported results are from 418 instances in which the caregiver overtly responded. All data analyses were conducted on SPSS Statistics 27 program. Preliminary analyses revealed no significant effects of the demographic variables (e.g., gender, income) on infant transgression, parent response, or infant compliance. Therefore, these variables were not analyzed further.

### Caregivers Use of Physical Intervention

Paired samples  $t$ -tests were used to analyze caregivers use of physical intervention in comparison to the other responses (excluding ignoring) during a transgression. Means and standard deviations for each caregiver response are reported in Table 5. A Bonferroni correction was applied to account for multiple comparisons, resulting in an adjusted alpha level of  $p < .0083$ .

Caregivers more frequently used physical intervention than physical redirect,  $t(50) = 4.12$ ,  $p < .01$ , or verbal redirect,  $t(50) = 3.37$ ,  $p < .01$ . However, there were no significant differences between caregivers' use of physical intervention and verbal distraction,  $t(50) = 0.80$ ,  $p = .43$ , object distraction,  $t(50) = 0.68$ ,  $p = .51$ , softening,  $t(50) = 3.79$ ,  $p < .01$ , or verbal prohibition,  $t(50) = 1.81$ ,  $p = .08$ .

### Infant Level of Compliance and Caregiver Response Type

Infant compliance was analyzed using a Generalized Linear Mixed Models (GLMM) with a Poisson data distribution, loglinear link function. Compliance was categorized as either: Compliance, Passive compliance, Passive noncompliance, or Direct defiance. For each form of compliance, a GLMM was used that included each prohibition. Betas reported in the Results section are unstandardized and standardized betas are reported in the Tables 6-9.

**Infant Compliance.** Infant compliance was significantly associated with parent responses of softening,  $b = 1.69$ ,  $p < .01$ , object distraction,  $b = 1.29$ ,  $p = .02$ , and verbal prohibition,  $b = 1.31$ ,  $p = .047$ . However, caregiver responses of physical intervention,  $b = 0.88$ ,  $p = .38$ , physical redirect,  $b = 1.129$ ,  $p = .37$ , verbal redirect,  $b = 1.29$ ,  $p = .07$ , verbal distraction,  $b = 1.17$ ,  $p = .20$ , were not associated with infant compliance.

**Infant Passive Compliance.** Infant passive compliance was significantly associated with parent responses of physical redirect,  $b = 1.46$ ,  $p = .01$ . However, caregiver responses of physical intervention,  $b = 1.21$ ,  $p = .11$ , verbal redirect,  $b = .99$ ,  $p = .94$ , verbal distraction,  $b = 1.06$ ,  $p = .66$ , object distraction,  $b = 1.03$ ,  $p = .83$ , softening,  $b = 1.19$ ,  $p = .21$ , verbal prohibition,  $b = 1.02$ ,  $p = .14$  were not associated with infant passive compliance.

**Infants Passive Noncompliance.** Infant passive noncompliance was not associated with parent responses of physical intervention,  $b = 1.14$ ,  $p = .41$ , physical

redirect,  $b = 1.33$ ,  $p = .21$ , verbal redirect,  $b = 1.13$ ,  $p = .49$ , verbal distraction,  $b = 1.24$ ,  $p = .19$ , object distraction,  $b = 0.90$ ,  $p = .53$ , softening,  $b = 1.12$ ,  $p = .46$ , verbal prohibition,  $b = 1.15$ ,  $p = .86$ .

**Infant Defiance.** Infant defiance was significantly not associated with parent responses of physical intervention,  $b = 1.38$ ,  $p = .60$ , physical redirect,  $b = 0.63$ ,  $p = .46$ , verbal redirect,  $b = 1.21$ ,  $p = .77$ , verbal distraction,  $b = 0.73$ ,  $p = .64$ , object distraction,  $b = 1.14$ ,  $p = .81$ , softening,  $b = 0.69$ ,  $p = .56$ , verbal prohibition,  $b = 0.73$ ,  $p = .62$ .

#### **Infant Level of Compliance and Caregiver Response Valence**

We also examined infants' frequency of compliance type in response to the frequency of caregivers' valence. A separate GLMM was conducted that include caregivers' valence codes. Reported betas in the Results section are unstandardized. Standardized betas are reported in the Tables 7-10.

**Infant Compliance.** Infant compliance was not significantly associated with parent valence of positive,  $b = 1.08$ ,  $p = .22$ , and negative,  $b = 0.97$ ,  $p = .49$ , or neutral,  $b = 0.99$ ,  $p = .81$ .

**Infant Passive Compliance.** Infant passive compliance was not significantly associated with parent valence of positive,  $b = 1.02$ ,  $p = .70$ , negative,  $b = 0.93$ ,  $p = .06$ , or neutral,  $b = 0.97$ ,  $p = .29$ .

**Infant Passive Noncompliance.** Infant passive noncompliance was not significantly associated with parent valence of positive,  $b = 1.05$ ,  $p = .42$ , negative,  $b = .90$ ,  $p = .83$ , or neutral,  $b = 0.99$ ,  $p = .85$ .

**Infant Defiance.** Infant defiance was not significantly associated with parent valence of positive,  $b = 1.55$ ,  $p = .41$ , negative,  $b = 1.68$ ,  $p = .37$ , neutral,  $b = 1.65$ ,  $p = .37$ .

## Discussion

This study examined transgressions in 12- and 13-month-olds and how caregivers' prohibitions were associated with compliance behaviors during a 10-minute free play lab observation. Caregivers were given no explicit instructions on which behaviors to prohibit, or the type of behavior used to respond to their infant. Our first hypothesis was supported in that caregivers used significantly more physical intervention than other forms of prohibitions (e.g., distractions and verbal responses) during a transgression. These results were not surprising because physical intervention had the highest usage percentage in comparison to the other prohibition types during the observation. These findings replicated similar work that reported a high use of physical intervention by a caregiver as a means to prohibit their child's misbehavior across all types of transgression (Dahl, 2016; Dahl & Campos, 2013; Kuczynski & Kochanska, 1990). Previous self-report responses have also provided a potential framework to how a caregiver may prohibit their 12-month-old during a transgression. Dahl and Campos (2013) asked mothers with children between the ages of 11-23 months to provide a detailed description of how they prohibited their child during a transgression. Mothers reported greater use of physical restraint than reasoning across all three types of transgression assessed (e.g., moral, pragmatic, and prudential). Furthermore, Dahl (2016) reported that caregivers used a higher proportion of physical interventions in response to a pragmatic or prudential transgression during a home observation.

The second hypothesis was also supported. Specifically, caregivers who used softening behaviors, such as acknowledging the infants' desires, soothing the child, and or providing a compromise, were more likely to elicit infant compliance than caregivers who used verbal prohibition. This finding provides support for the notion that parent-child interactions are a bidirectional process (Llyod & Masur, 2014). That is, rather than parent-child interactions being viewed as a unilateral relationship (caregiver simply imposes their will on child), acknowledging infants' desires and offering an alternative activity increases the likelihood the child complies and no longer repeats the transgression at a later time during the free play observation. Findings support Dix's (1992) parental goals model that categorized child-center goals as socialization which are characterized with teaching a valuable lesson. Although infants in this study were limited in language abilities, caregivers who chose to employ softening responses rather reprimanding the misbehavior yielded a better outcome.

Lastly, our third hypothesis was not supported. Valence used by caregivers during a prohibition was not related to the type of infant compliance. One possible explanation for the lack of an effect of valence was the low variability of caregivers' valence. That is, the overwhelming majority of valence was coded as neutral, not positive, or negative. This lack of variability in caregivers' response valence may have led to the null finding. Additionally, the literature on the effects of caregivers' valence on child compliance is mixed. Kochanska and Aksan (1995) found that caregiver-infant shared positive affect was a predictor of committed compliance in 26-41-month-olds during a home observation. However, Hendrix and Thompson (2011) reported no significant difference in maternal use of valence during a prohibition between prelocomotor and transitioning

infants in their longitudinally study. Thus, the use of valence as a predictor of form of compliance in infants younger than 14-months needs further examination.

### **Considerations for Future Research**

Prohibitions are an important tool a caregiver uses to provide structure and guidelines to how a child should conduct themselves and varies across development. Findings on the forms of prohibitions replicated previous work on types of prohibitions made from caregivers of similar ages. Gralinski and Kopp (1993) examined the types of prohibition request parents made in 14- and 30-month-olds. They reported that the types of prohibitions made from parents at 14-months fell into 4 categories: safety, property, harm, and delay. The playroom in this study was designed to afford infants the opportunity to engage in property transgressions (e.g., removing items on the bookshelf). The majority of reported prohibitions concerned others' property (e.g., pragmatic) and not harm (e.g., prudential). Increased attention on property prohibitions could be due to the family having been in a public domain and the caregiver may not want to look embarrassed that their child was *making a mess* in a place outside their home. As noted in the results, we did explore individual differences such as family income and ethnicity with regards to predictors of the amount of parent prohibitions during the free play observation and found no effect. We suspect that individual differences within the families that were not examined maybe a predictor of the amount of caregiver's prohibitions such as parental experience or number of siblings the infant has in this study's sample.

There is an ongoing debate as to whether committed compliance and internalization are terms that could be used interchangeably. Kochanska and Aksan (2006) argued that committed compliance is a trait-like characteristic that is stable overtime which involves external and internal motivations to comply to caregivers' request. According to these researchers, although committed compliance and internalizations may have different underlying motivations (one being external the other internal), these characteristics are stable across a child's development. Silverman (2012) disagreed with this argument and reported minimal evidence for the construct being trait-like and stable across time after examining previous committed compliance studies in 14–56-month-olds. The researcher argued that committed compliance may not translate across different contexts and be predictive of morals. Although a more thorough examination on this debate is beyond the scope of this paper. We felt the need to briefly mention the debate here since it is unknown whether infant's compliance behaviors in this study would translate to other avenues (i.e., home). An important factor to why there are developmental differences in prohibitions and compliance is an increase in socialization with others and an awareness of *wrong* from *right* within the child. As children develops from infancy to toddlerhood, they have an understanding of social norms (Dahl & Kim, 2014).

As noted in the introduction there are developmental differences in prohibitions and compliance across development. As a child increases in their interactions with others it affords an opportunity to create more conflicts between siblings and peers once they reach school age. Increase in interactions with their environment is associated with more moral transgressions such as biting and kicking others towards the first half of the second

year (Essler & Paulus, 2020). Thus, moral prohibitions from parents are more likely to occur during this time period. Around 3- to 5-years of age children do have an understanding of pragmatic transgressions and acknowledge that they are less severe than the other forms (Dahl & Kim, 2014). This finding replicates Gralinski and Kopp (1993) results that property prohibitions increase as children age. An increase in prohibition towards pragmatic violations does lead to more compliance after the first year. Smetana, Kochanska, and Chuang (2000) reported in their longitudinal study that there was a significant increase in compliance for property prohibitions from 14- to 24-months. Thus, the developmental literature indicates a shift from moral to pragmatic transgressions during early childhood.

Although this study adds to the literature on the relationship between prohibition and compliance during infancy, it is worth noting the study's limitations. Unlike Dahl (2016) and Dahl and Campos (2013), this study did not have variability amongst the type of transgression. That is, the overwhelming percentage of transgression types were classified as pragmatic over prudential. Findings may have been driven by how caregivers' respond to when a child committed an inconvenience act and may not necessarily reflect the prohibition behaviors displayed when their child commits a dangerous act to oneself. Furthermore, as noted earlier there was a lack of variability in caregivers' use of valence. Thus, it is unknown if caregivers' valence during a prohibition would have varied if there were more prudential transgressions (e.g., putting a magnet in mouth) that occurred during the observation.

Future research should explore parents' expectations for infants when they prohibit behaviors during a transgression. Specifically, do parents have expectations that their prohibitions will be remembered in other public domains. Other avenues to explore could also examine how members within the same family (e.g., parent and grandparent) potentially differ on their prohibitions towards a child. In particular, to what extent does having a caregiver's parent in the same room influence the type of prohibitions during a lab observation.

Prohibitions are an effective tool that caregivers employ to teach their child how to behave. An important caregiver goal during a response to a transgression is for their child to comply with the request and not repeat the behavior at a later time point. This study highlights the need to further examine prohibition development in young infants and its impact on a child's response.

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**Table 1**

*Transgression and Response Episode Onset and Offset definitions.*

Transgression Episode	Definition	Example
Onset	Time when infant started the misbehavior. In order for an event to be considered a transgression episode the caregiver must have notice and respond to behavior.	For example, if a child grabs a remote controller from the shelf and caregiver sees and disapproves of the behavior. The grabbing of the remote is the start of the transgression episode.
Offset	Time when infant stopped misbehavior. Offset occurs when the infant begins a different activity.	For example, infant opens drawer then shakes baby gate (caregiver disapproves of both behaviors). That should be coded as an offset (opening drawer), and a new separate onset (shaking baby gate).
Response Episode		
Onset	Time when caregiver first responded to the misbehavior. Ways that signal the onset of caregiver's response: 1. Verbally calling child's name, 2. Attention eliciting noise design to get child's attention, 3. Verbal response (e.g., "Hey.."), 4. Physical movement/ posture modification towards child.	Caregiver looks at infant playing with gate and says, "Stop."
Offset	Time when the caregiver stopped responding to misbehavior. This is indicated by caregiver no longer attending to child	Caregiver turns around and walks back to chair or continues to fill out questionnaire.



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(e.g., not paying attention  
to child).

**Table 2***Prohibition Types and Definitions*

Prohibition	Definition
Physical Intervention	Caregiver physically implements power assertion in order to stop misbehavior (e.g., grabbing infant's hand from plant).
Physical Redirect	Caregiver physically redirects infant away from transgression episode (e.g., picking up infant and placing him/her next to toy area).
Verbal Redirect	Either a direct or indirect verbal request from caregiver to infant to alter behavior (e.g., "That's not ours, go play with these toys instead.")
Verbal Distraction	Caregiver calls infant's name or makes a personal communicative sound (e.g., snapping fingers) to get infant's attention in order to get child to stop transgression.
Object Distraction	Caregiver uses an object (e.g., toy, personal item) to get infant's attention in order to get child to stop transgression.
Softening	Acknowledgement of infant's desire (e.g., looking at child with a smile and saying, "Excuse me"), or attempt to comfort the child (soothing, rubbing infant's back), or proposal of compromise or, term of endearment (e.g., "Honey", "Yeah, you are tired" )
No involvement/ Ignoring	The caregiver did not address the child or caregiver either sees or hears (e.g., infant playing with gate) infant continuing transgression episode (or begins similar misbehavior behavior with a new transgression episode) and does not intervene.
Verbal Direct Prohibition	Direct command to infant by caregiver to immediately stop transgression episode <i>without offering an alternative</i> (e.g., "Stop, getting into things that are not yours." "No, don't do that.")

**Table 3***Caregiver Valences and Definitions*

Valence	Definition
Positive	Positive affect expressed in face during communication, or if face is not visible positive affect is clearly expressed vocally (shriek of excitement, laughter)
Negative	Negative affect is expressed in face during communication, or if face is not visible negative affect is clearly expressed vocally (crying, stern voice)
Neutral	No affect expressed in face during communication, or if face is not visible no affect is clearly expressed vocally

**Table 4***Compliance Types and Definitions*

Compliance Type	Definition
Compliance	Obedience to parent's request/directive without the parent physically intervening (e.g., moving the child; increasing physical proximity to the child).
Passive Compliance	Child complies but only after the parent overtly intervened by physically move the child or increasing proximity to the child so as to divert them away from the transgression. It appears unlikely that the child would have complied without the parent's behavioral intervention.
Passive Noncompliance	Noncompliance but no negative affect; ignoring parent.
Direct Defiance	Overt refusal, presence of negative affect, whining, persistence in spite of direct parent action.

**Table 5***Means, Standard Deviations, and Percentage Usage for Each Response*

Response	<i>M</i>	<i>SD</i>	%
Physical Intervention	1.78	2.04	20.7
Physical Redirect	.75	1.20	8.7
Verbal Redirect	.82	1.54	9.3
Verbal Distraction	1.37	3.29	15.9
Object Distraction	1.53	2.50	17.4
Softening	.73	1.22	8.4
Verbal Direct Prohibition	1.22	2.90	14.4

**Table 6**

*Generalized Linear Model with the Frequency of Response and Valence with Relation to the Frequency of Compliance.*

Variable	Standardized Beta	p-value	Standard Error	95% CL	
				L	H
Physical Intervention	-.13	.382	.14	-.41	.16
Physical Redirect	.12	.373	.13	-.15	.39
Verbal Redirect	.26	.073	.13	-.02	.51
Verbal Distraction	.15	.204	.12	-.09	.39
Object Distraction	.26*	.017	.10	.05	.47
Softening	.53*	<.01	.13	.27	.78
Verbal Prohibition	.27*	.047	.13	.00	.54
Positive	.08	.215	.06	-.05	.20
Negative	-.03	.489	.05	-.12	.06
Neutral	.08	.807	.04	-.08	.06

Note: \* =  $p < .0083$

**Table 7**

*Generalized Linear Model with the Frequency of Response and Valence with Relation to the Frequency of Passive Compliance.*

Variable	Standardized Beta	p-value	Standard Error	95% CL	
				L	H
Physical Intervention	.19	.113	.12	-.05	.43
Physical Redirect	.38*	.012	.14	.09	.66
Verbal redirect	-.01	.943	.13	-.28	.26
Verbal distraction	.06	.661	.13	-.20	.32
Object distraction	.03	.828	.11	-.20	.25
Softening	.18	.213	.14	-.11	.46
Verbal prohibition	.02	.886	.14	-.26	.30
Positive	.02	.696	.06	-.09	.14
Negative	-.08	.058	.04	-.16	.00
Neutral	-.03	.294	.03	-.09	.03

Note: \* =  $p < .0083$

**Table 8**

*Generalized Linear Model with the Frequency of Response and Valence with Relation to the Frequency of Passive Noncompliance.*

Variable	Standardized Beta	p-value	Standard Error	95% CL	
				L	H
Physical Intervention	.13	.419	.16	-.19	.44
Physical Redirect	.29	.213	.23	-.17	.74
Verbal Redirect	.12	.49	.17	-.23	.47
Verbal Distraction	.21	.189	.16	-.11	.53
Object Distraction	-.10	.53	.16	-.42	.22
Softening	.12	.526	.18	-.25	.48
Verbal Prohibition	.14	.456	.19	-.23	.51
Positive	.05	.424	.06	-.08	.18
Negative	-.01	.829	.04	-.10	.08
Neutral	-.01	.85	.04	-.08	.07

Note: \* =  $p < .0083$

**Table 9**

*Generalized Linear Model with the Frequency of Response and Valence with Relation to the Frequency of Defiance.*

Variable	Standardized Beta	p-value	Standard Error	95% CI	
				L	H
Physical Intervention	.32	.597	.60	-.89	1.53
Physical Redirect	-.47	.464	.63	-1.73	.80
Verbal Redirect	.19	.767	.63	-1.08	1.45
Verbal Distraction	-.32	.64	.67	-1.67	1.04
Object Distraction	.13	.809	.52	-.93	1.19
Softening	-.37	.556	.62	-1.61	.88
Verbal Prohibition	-.31	.615	.61	-1.54	.92
Positive	.44	.411	.53	-.63	1.51
Negative	.52	.365	.57	-.63	1.67
Neutral	.50	.336	.51	-.54	1.54

Note: \* =  $p < .0083$



**Figure 1**

*Room Set Up During Lab Observation*



*Note.* Bookshelf that contained potential prohibited items was located on the left side of the image.