

The Role of Affective Tone in Discipline Transactions of Mothers and Their
Preschoolers: Implications for Self-regulation

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Statement of Authorship

This thesis contains no material which has been accepted for any award or any other degree or diploma in any university or other institution. It is affirmed by the candidate that, to the best of her knowledge, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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Abstract

The purpose of the present study was to examine the effects of both specific parenting strategies and maternal affective tone, characterized separately but examined simultaneously, on child's subsequent response as well as the effects of child's behavioral response and affective tone on mother's subsequent response using sequential analytic methods.

Participants were one hundred seventeen mothers and their preschoolers. The assessment consisted of video segments that add up to a total of 20 minutes in which mothers and their preschoolers simulate everyday contexts. The videos were coded in two channels: a) non-affective channel, verbal/behavioral and b) affective channel. The results partially supported previous findings and revealed significant bidirectional relationships between subsequent affective and non-affective responses of partners. The effect of positive affectivity between partners on child compliance was also discussed.

Keywords: Self-regulation, internalization, parenting strategies, affective tone, sequential analysis.

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Socialization research has emphasized child compliance and noncompliance as critical markers for the development of self-regulation (Kopp, 1982). Noncompliance at early ages is often a predictor of future externalizing and conduct problems (e.g. Chamberlain & Patterson, 1995). Research has shown parenting is critical for children's developing self-regulation (Maccoby & Martin, 1983; Kuczynski, 2003; Vigilante & Wahler, 2005).

For example, Stormshak and colleagues (Stormshak, Bierman, McMahon, & Lengua, 2000) examined the positive and negative parenting practices in relation to their associations with oppositional and aggressive behaviors of children. The interviews and self-reports of parents revealed that high levels of punitive discipline, spanking, physical aggression whereas low levels of warmth and involvement were concurrently associated with increased levels of child behavior problems. Similarly, longitudinal studies have shown that early parenting measures like higher levels of proactive teaching, calm discussion in disciplinary encounters, warmth, interest and involvement in child's social activities and lower levels of harsh and physical discipline predicted better adjustment and academic performance even in sixth grade (Pettit, Bates, & Dodge, 1997). Those studies demonstrate, in order to foster adaptive outcomes (e.g. high levels of compliance, low levels of noncompliance), parents need to display a combination of both non-power assertive parenting strategies and warm/responsive stance toward their children.

While research has clearly shown that noncompliance carries negative implications for self-regulation, not every form or instance of compliance predicts internalization or autonomous self-regulation in the absence of surveillance (Maccoby & Martin, 1983).

Maccoby and Martin (1983) distinguished between receptive and situational compliance. They argued that situational compliance represents a short-term form of compliance typically elicited only in the presence of parental pressure and may not lead to internalization. In contrast, receptive compliance reflects a willingness to be receptive to parental values. Maccoby and Martin also argued that receptive compliance manifests within relationships characterized by reciprocated responsiveness of both mothers and children to the other partner's needs and requests.

This original distinction between receptive and situational compliance based on motivational underpinnings of children's compliant acts proposed by Maccoby and Martin (1983) was operationalized as committed versus situational compliance respectively (Kochanska & Aksan 1995; Kochanska, Aksan & Koenig, 1995; Kochanska, Forman, Aksan & Dunbar 2005). In this operationalization, committed compliance as opposed to situational compliance is viewed as an early form of internalization and it refers to voluntary or wholehearted compliance with directives of parents or other socialization agents (e.g.: teachers), which are maintained in the absence of continued pressure on rule-compatible conduct. In contrast, situational compliance results from continued parental pressure for rule-compatible conduct and lacks the voluntary or wholehearted quality in embracing the parental agenda. Situational compliance is not likely to be maintained in the absence of surveillance.

Correlational research evidence has supported those basic distinctions of compliance. For example, evidence has shown that committed compliance in toddlerhood predicts both concurrent and future rule-compatible conduct in the absence of surveillance or internalization, whereas situational compliance does not (Kochanska & Aksan 1995; Kochanska et al., 1995; Kochanska et al., 2005). Furthermore, research has shown a moderate

to strong negative correlation between committed compliance and situational compliance (Kochanska & Aksan 1995; Kochanska et al., 1995) supporting the distinctiveness in the functions of two forms of compliance. Those findings support Maccoby's view that it is possible to distinguish among acts of compliance that are differentially associated with autonomous self-regulation or internalization.

Furthermore, Maccoby's point that receptive compliance manifests within mutually positive and responsive mother-child relationships has also received empirical support. Longitudinal correlational designs have shown that children's committed compliance is fostered when the child experiences positive affect in daily routine interactions with parents. Moreover, high levels of positive affect in the child are fostered by maternal responsiveness (Kochanska & Aksan 1995; Kochanska et al., 1995; Kochanska et al., 2005). For example, shared positive affectivity during toddlerhood was associated with higher concurrent committed compliance and toddler age committed compliance predicted both concurrent and preschool age internalization (Kochanska & Aksan 1995; Kochanska et al., 1995; Laible & Thompson, 2000).

The importance of child's affective reactions and the affective ecology of the relationship to children's compliance and eventual self-regulation can be also seen when the nature of parent training are examined. Intervention programs targeting children with disruptive behavior problems teach parents several skills in addition to issuing more effective directives in discipline contexts (McMahon & Forehand, 2004). For example, in the parent training program designed by McMahon and Forehand, there are two distinct training phases. In the first phase, mothers learn to increase their attention and responsiveness towards their children in playful interactions that do not involve discipline related exchanges. Only after

learning those skills in non-disciplinary exchanges, called 'Child's Game' (McMahon, Forehand, & Griest, 1981), the second phase of the program teaches mothers skills to manage disciplinary exchanges, e.g. clear commands. Although direct evidence is lacking, it is possible that effectiveness of 'optimal' discipline strategies may be reduced without the maternal responsiveness training in the first phase.

Experimental evidence with normally developing children suggest that the maternal responsiveness training in the first phase, Child's Game, produces both greater positive affect in the child (Lay, Waters, & Parke, 1989) and greater subsequent compliance to maternal demands (Lay et al. 1989; Parpal & Maccoby, 1985). Together this body of evidence would suggest that improving the affective ecology in parent-child relationship may be a critical step in making clinically significant progress toward more compliance and less noncompliance (McMahon & Forehand, 2004).

The studies just reviewed adopted a dimensional framework to characterize parenting such as responsiveness/warmth, power-assertion as well as the affective ecology of the relationship such as shared positive affectivity or extent of child's positive affect. While such dimensional approaches have been useful to understanding children's self-regulation, they also impose arbitrary divisions in characterizing parent-child interactions. Mother-child interactions unfold over time, and actions of each partner involve the simultaneous activity in both affective tone and non-affective verbal/behavioral exchanges. A better understanding of how non-affective verbal/behavioral channels combine with affective channel may help us understand the processes that are associated with adaptive versus maladaptive forms of compliance and their implications for self-regulation.

The primary goal of this thesis was to better characterize how non-affective verbal/behavioral exchanges combine with the affective channel to shape the subsequent partner responses. To this end, two-event sequences that lead to child compliance (adaptive chains) or child noncompliance (maladaptive chains) were examined. Although both the developmental literature and training programs emphasize principles of social learning theory, reinforcement and punishment contingencies in shaping child behavior, the theory and empirical evidence are silent with respect to the role of affective channel in shaping partner responses. The goal of this thesis was to elucidate the role of affective channel separately from verbal channel in altering subsequent parent and child responses.

For example, events that began with mothers' directives for conduct such as commands/suggestions were examined in relation to subsequent child compliance or noncompliance. The question of central interest was whether mother's affective tone altered the probability of child's compliant or noncompliant responses. Similar event chains that began with child compliance or noncompliance was examined in relation to maternal responses. Again, the central question of interest was whether child's affective tone altered subsequent maternal responses. Following a review of the literature regarding maternal strategies in the non-affective channel, tentative hypotheses were generated regarding how maternal affect alters the probability of subsequent child compliance or noncompliance over and above what would be expected given the verbal channel and vice versa.

Sequential analytic techniques were used to identify those maternal behaviors (e.g., positively toned commands), which were associated with adaptive outcomes (higher probability of subsequent child compliance). In additional external validity analyses, an individual differences perspective was adopted. Specifically, relative frequency of mother's

verbal-affect combinations associated with subsequent child compliance (adaptive responses) or noncompliance (maladaptive responses) were examined in relation to children's self-regulation, including children's committed and situational compliance, internalization of maternal prohibitions, and maternal and teacher ratings of behavior problems.

Literature Review

Strategies associated with child compliance versus child noncompliance

There is a large body of research on the association of parenting strategies with compliance and noncompliance. Some of this research is based on efficacy of parent training programs that target children with disruptive behavior disorders while others are based on developmental research that seek to explain parental factors and processes associated with higher compliance and rule-compatible conduct from children.

In a classical set of studies, Lepper (1981) examined the effects of threats of punishment on children's internalization of rules. In a prohibited-toy paradigm, children were more likely to follow the prohibition in the absence of surveillance when they were presented with a mild threat of punishment rather than a severe threat (Lepper, Zana, & Abelson, 1970). A mild threat of punishment consisted of statements like "I will be annoyed if you play with this toy when I am out of the room" whereas a severe threat of punishment sounded more like "I will be very angry if you play with it and will tell your teacher". The results showed that severe threats of punishment caused increased levels of noncompliance. Lepper further argued that the reason why milder threats and justifications worked better is that under these conditions children tended to think their behaviors were reflecting their own desires. The findings of this experimental work demonstrated that social control that is relatively less

powerful was more effective in eliciting the target behavior in children in the absence of surveillance compared to powerful control techniques.

Correlational research since Lepper's classic work has shown that adverse effects of power assertive strategies generalize beyond the laboratory to everyday contexts. For example, higher levels of power assertive strategies that involve physical control of child, harsh commands, verbal criticisms and threats were negatively correlated with child's committed compliance in home observations concerning toy clean-up and in laboratory observations concerning prohibited-toy context concurrently (Kochanska & Aksan, 1995) and predicted weaker levels of internalization longitudinally (Kochanska, Aksan, & Nichols, 2003). Meta-analytic work supports adverse effects of power assertive strategies on child outcomes. For example, Gershoff (2002) examined the outcomes associated with parental use of corporal punishment, operationalized as parental use of physical force, which does not reach levels of injury to control child's behavior. She showed that although corporal punishment is effective in eliciting immediate compliance, it does not necessarily lead to internalization or long-term compliance. According to Gershoff, corporal punishment may cause children to attribute their compliance to external sources like presence of threatening socialization agent rather than internal sources like self (Lepper, 1981).

Research has shown that the characteristics of parental commands also influence rates of child compliance and noncompliance. Patterson (1982) showed noncompliance can often be tied to insufficient parenting skills such as not being able to issue clear commands. For example, Forehand, Wells, and Sturgis (1978) showed that vague commands (e.g.: "Put it down") explained the greatest variance in child noncompliance in the home among families with referred children. In another longitudinal study with normally developing children,

Kuczynski and Kochanska (1995) found that issuing fewer demands for inhibiting inappropriate conduct (don't commands) fostered child compliance whereas a high frequency of such demands and prohibitions led to increased levels of child noncompliance. Rather maternal do commands and demands for competent action (e.g. "Share your cookies") were positively related with compliance. Those findings have been replicated in comparisons of clinically referred and non-referred groups (Vigilante & Wahler, 2005). Those studies indicate that issuing clear and specific commands and issuing don't commands only in conjunction with do commands that communicate desirable alternatives is likely to increase levels of child compliance.

Research has also shown that maternal strategies vary depending on maternal goals concerning immediate versus sustained compliance. Kuczynski (1984) examined variations in maternal strategies depending on long-term versus short-term socialization goals in an experimental study. Children's compliance to maternal demands were observed in both mothers' presence and absence. However, the mothers assigned to the short-term goal condition were led to believe that their children's compliance would be examined only in mother-present episode whereas mothers assigned to the long-term goal condition were told that their children's compliance would be examined in both her presence and absence episodes. In the mother-present condition, mothers were instructed to try having their children engage in a routine sorting task in a room full of other attractive toys for a period of five minutes, relying on their everyday methods. In the mother-absent condition, the mother was called out of the room and was asked to remind her child to continue with the sorting task while alone.

The results showed that the mothers used strategies with different frequencies if they had been assigned to the long-term versus short-term goals conditions. Mothers in the long-term condition were warmer in their interactions, engaged in more explanations (e.g.: “This is an experiment”) and reasoning (e.g.: “When someone asks you to do something, you should do it”) than mothers in the short-term condition. As a result, children in the long-term condition maintained compliance for a longer time than children in the short-term condition in both mother-present and mother-absent episodes. In the long-term condition, both in mothers’ presence and absence, maternal reasoning was positively correlated with compliance whereas power assertive strategies like commands and threats were negatively correlated with compliance.

Other than adaptive parental strategies like explanations and reasoning, praising compliant behaviors has been shown to increase rates of future compliance. In a series of experiments, Lepper and colleagues (Lepper, Greene, & Nisbett, 1973) examined the effects of the timing of extrinsic rewards on children’s subsequent interest in the target activity. The findings showed when children were promised a reward for engaging in a certain activity, their levels of interest in engaging in the same activity decreased in later trials compared to an unexpected-reward condition in which the same reward was presented to children at the end of the activity without any prior mention of it. The reward in the experiment was a simple certificate that read “Good Player” which basically resembled maternal praises of “Good boy” or “Nice job”. The findings of the study point to the importance of the timing of praising for compliance. In this sense, praising children after a compliant action rather than promising to praise them in return for a compliant action works in securing future compliance in the absence of surveillance.

The skills that are emphasized in parent training programs targeting children with disruptive behavior disorders elucidate adaptive and maladaptive parenting strategies in a more comprehensive framework. For example, Parent/Child Interaction Therapy (PCIT), teaches parents the “Eight Rules of Effective Commands” (Querido, Bearss, & Eyberg, 2002). The rules are as follows: giving direct rather than indirect commands (e.g.: “Put the crayon on the table” not “Let’s put it on the table”), stating commands positively (e.g.: “Come sit beside me” not “Don’t go there”), giving commands one at a time (e.g.: “Put your shoes in the closet” not “Put your shoes in the closet, take off your shirt, and go to bed”), giving specific rather than vague commands (e.g.: “Put the scissors down” not “Be careful”), giving age-appropriate commands (e.g.: “Pick that big book up” not “Pick that diary up”) , giving commands politely and respectfully, explaining commands before giving them and after they are obeyed, and using commands only when necessary. These rules enable the child feel attended to, supported and also provides the child with the information about which behavior is appropriate. Parents are also taught to praise the compliant acts while giving “time-out” in response to noncompliant acts in the PDI sessions. In families with noncompliant children, parents have been observed to provide a high frequency of positive consequences such as attention for noncompliant behaviors which serves to reinforce noncompliance (Snyder, 1977). Therefore, implementing “time-out” is especially important to decrease noncompliant behaviors.

Similar parenting training programs were found to work with children who have early-onset conduct problems (Webster-Stratton & Hammond, 1997), children with ADHD (Attention Deficit Disorder with Hyperactivity) (Pisterman, Firestone, McGrath, Goodman, Webster, Mallory, et al., 1992) and children from low-SES settings (Gross, Fogg, Webster-

Stratton, Garvey, Julion, & Grady, 2003). The findings of these studies revealed that using fewer commands, criticisms, directives, and threats and using more praise for compliant behaviors, parental positive feedback for appropriate child conduct and using more consistent reinforcement increased child compliance (Webster-Stratton et al., 1997; Pisterman et al., 1992; Gross, et al., 2003). Furthermore, the findings have shown that improvements in child conduct transfer to peer contexts in the form of better conflict management skills (Webster-Stratton et al., 1997), better classroom behavior (Gross et al., 2003). The gains from both PCIT and the above mentioned programs tend to be maintained for prolonged periods of time (Nixon, Sweeney, Erickson, & Touyz, 2003; Hood & Eyberg, 2003; Boggs, Eyberg, Edwards, Rayfield, Jacobs, Bagner, et al. 2004; Webster-Stratton et al., 1997; Pisterman et al., 1992; Gross, et al., 2003).

To summarize, the above mentioned studies and parent training programs converge on what constitutes adaptive parenting strategies with regard to eliciting and maintaining child compliance. Milder threats, low levels of physical control and criticisms, clear commands that emphasize the do's over the don'ts, explanation/reasoning, and praise are found to increase child compliance and decrease child noncompliance.

Role of Maternal Responsiveness and Affect in Compliance versus Noncompliance

In addition to parental strategies that are found to foster child compliance, there are other factors associated with the affective component of mother-child interactions that influence compliance. Several studies found attachment quality, maternal responsiveness and a variety of constructs that characterize the quality of the affective exchange to influence subsequent child compliance.

Maccoby (1983) argued that in order to prepare the ground for socialization pressures around 18 months, it would be useful for parents to create a mutually rewarding affective bond with their children. She argued that such bonds enable children to be more willing and cooperative with parental agenda and that attachment processes should contribute to this process. In other words, secure attachment should foster compliance levels of children (Maccoby & Martin, 1983). Both old and new evidence supports this position. For example, Londerville and Main (1981) have found that securely attached infants showed increased levels of compliance to maternal demands as toddlers in a free-play context and that mothers of securely attached children issued commands with a warmer tone than mothers of insecurely attached children. In a more recent study, findings showed that toddlers with secure attachment at 22 months showed more committed compliance in the “do” context—cleaning up toys (van der Mark, Bakermans-Kranenburg, & van IJzendoorn, 2002).

Not surprisingly, studies have also shown that maternal responsiveness tends to foster child compliance (Vigilante & Wahler, 2005; Johnston, Murray, Hinshaw, Pelham, & Hoza, 2002; Shaw, Keenan, & Vondra, 1994; Parpal & Maccoby, 1985). For example, a positive relation between greater child compliance/ lower conduct problems and both observed (Vigilante & Wahler, 2005) and questionnaire (Johnston et al., 2002) measures of maternal responsiveness have been reported. In a longitudinal study of low-SES families, Shaw et al., (1994) found that maternal unresponsiveness at infancy was significantly correlated with child noncompliance at 18 months which then predicted externalizing behavior problems at toddlerhood. Those correlational studies support the notion that maternal responsiveness fosters child compliance in concurrent and longitudinal designs, using questionnaire and observational measures of constructs, in normal as well as clinical samples.

Findings from classic experimental studies suggest that such positive associations are causal in nature. In Parpal and Maccoby's study (1985), mothers in the experimental group were taught how to be responsive to their children's cues during play, called "Child's Game," which resulted in increased descriptions, imitations, positive statements and gestures, positive affect and compliance with child's directives during play compared to the control group mothers. The results showed that children of mothers who received the responsive play training showed higher levels of compliance. Those findings were replicated by Lay et al. (1989) who showed that not only child compliance but also child positive affect increased as a result of maternal responsiveness training.

In an attempt to investigate whether the positive mood of child mediated the effect of maternal responsiveness on child compliance, Lay et al. (1989) conducted a second, follow-up experiment. They examined the effects of inducing positive versus negative mood in children on their levels of compliance to maternal demands. In order to be able to test this question, first an experimenter tried to induce positive or negative mood by making children think about a certain event that made them feel happy/good/excited or upset/scared/angry, in mother's presence. Then the experimenter left the room after requesting children to continue thinking about that certain event until she came back. After the experimenter left, mothers gave sorting instruction to their children without helping or praising them for their compliance. The findings showed that children induced into positive mood sorted a greater number of blocks and showed shorter latency to comply with the maternal instructions compared to those induced into negative mood.

The emphasis Maccoby (1983) placed on mutual responsiveness and the special role of the affective bond between the mother and the child, and their roles on child compliance

has been captured in a variety of operationalizations in the literature (Kochanska et al., 2005; Feldman, Greenbaum, & Yirmiya, 1999; Laible & Thompson, 2000). Mutual responsive orientation during the first two years, a combination of maternal responsiveness and shared positive affectivity between the mother and the child, has been found to foster future committed compliance which in turn predicted internalization of both maternal and experimenter requests in the absence of surveillance (Kochanska et al., 2005). Feldman, Greenbaum and Yirmiya (1999) showed that maternal affective synchrony with infant cues at 3 months and dyadic synchrony of mothers and their infants' affect at 9 months predicted committed compliance at 2 years in a toy clean-up context.

The importance of the affective bond between parent and child is implicitly recognized in parent training programs for disruptive behavior disorders as well. For example, Parent/Child Interaction Therapy (PCIT) includes two phases in the parent training program (Querido, Bearss, & Eyberg, 2002). The first phase of the training, child-directed interaction (CDI) focuses on building a positive parent-child relationship with techniques similar to those in "Child's Game" and has five basic steps: praising, reflecting child's statements, imitating child's play, describing child's behavior, and showing enthusiasm in the meantime. Webster-Stratton et al. (1997) also found a similar parent training to result in increased levels of positive affect in children with early-onset conduct problems during interactions with their mothers. Only after these skills are practiced and learned, during the second phase of the training parents are taught to give effective commands and learn to manage discipline based interactions with their hard-to-manage, noncompliant children. The distinct phases in parental training suggest that the effectiveness of parental discipline strategies may be limited in the absence of an improved affective ecology in the relationship.

The review of studies in this section highlighted the importance of the affective bond between mother and child, including attachment quality, maternal responsiveness, shared positive affectivity and child affect with regards to their contributions to child compliance.

Present Study

The review of studies highlighted the influence of parenting strategies and responsiveness/ warmth related constructs in relation to child compliance. Those studies characterize variability in both dimensions by relying on a dimensional framework. For example, relative frequency of specific sets of strategies is examined in relation to rates of child compliance and/or noncompliance. Similarly, responsiveness, affective synchrony and shared positive affectivity tend to be measures of rates of specific events. While this framework has been useful in understanding processes involved in child compliance and noncompliance, it also tends to lack specificity in elucidating the simultaneous and independent roles of affective processes and non-affective nature of strategies.

For example, researchers often combine information from both the affective and non-affective channels to characterize parental strategies as power assertive or coercive. In Kochanska et al. (2003) mothers' matter-of-fact commands/ directives when delivered with negative affect are often characterized as relatively power assertive parental strategies. Similarly, Gross et al. (2003) characterized yelling, commands and/or criticisms delivered with anger, as a coercive strategy. Likewise, adaptive strategies are sometimes operationalized to include information from the affective channel. For example, Feldman and Klein (2003) found that maternal sensitivity, warm control that included implementing demands through distractions, suggestions, and explanations delivered with positive affect

were related to child's committed compliance. Furthermore, parental control strategies like those measured in Feldman and Klein (2003) study predicted committed compliance when they were delivered with a positive tone (Blandon & Volling, 2008).

This approach to combined measurement of strategies with affect has a confounding influence on inferences drawn. For example, this approach leaves unanswered the following question: what happens when mothers use adaptive strategies with a negative affective tone or use maladaptive strategies with a positive affective tone? In other words, these studies do not address the respective influences of either affect or strategy on the subsequent response of the partner. The present thesis examined the effects of both specific parenting strategies and maternal affective tone, characterized separately but examined simultaneously, on child's subsequent response as well as the effects of child's behavioral response and affective tone on mother's subsequent response using sequential analytic methods.

Sequential Hypotheses

Five distinct patterns of two-event chains were examined to test how affective tone was combined with verbal channel events to alter partner's subsequent responses. For example, three two-event chains specified how maternal affect may combine with mother's strategies in the non-affective, verbal/behavioral channel (lag-0 event) to increase the likelihood of subsequent child compliance/ noncompliance (lag-1 event). And two two-event chains specified how child affect may combine with child's compliance or noncompliance at lag-0 to alter mother's verbal and affective responses at lag-1. All two-event chains were associated with adaptive (child compliance) and maladaptive (child noncompliance) outcomes.

Following an examination of specific two-event chains in terms of verbal channel behaviors, specific predictions regarding the role of affect were advanced. For example, even adaptive maternal responses that we would expect to increase likelihood of child compliance can lead to child noncompliance when maternal responses are delivered with negative affect rather than with positive or neutral affect. Similarly, positively or neutrally toned compliance may elicit higher rates of adaptive responses than negatively toned compliance whereas positively or neutrally toned noncompliance may elicit lower rates of maladaptive responses when compared to negatively toned noncompliance.

Chain #1. In the first chain, shown in Table 1, the effects of distractions/suggestions (e.g.: “Let’s look at the storybooks”) versus issuing command/directives (e.g.: “Don’t go there”) on child’s probability of displaying compliance or noncompliance were examined. I would expect maternal distractions/suggestions to increase subsequent child compliance and decrease child noncompliance more than commands/directives. Regarding the affective component, I would expect positively or neutrally delivered distractions/suggestions to foster compliance more than negatively delivered distractions/suggestions. I would also expect positively or neutrally delivered commands/directives to be less detrimental to child compliance than negatively delivered commands/directives.

Table 1

Chain 1

Lag 0 (Mother)	Lag 1(Child)	
	Compliance	Noncompliance
Distraction/Suggestion		

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Command/Directive

Other

Chain #2. In the second chain, shown in Table 2, the effects of explanations/reasoning (e.g.: “We don’t touch those because they belong to someone else) use versus issuing commands/directives on child’s probability of displaying compliance or noncompliance were examined. I would expect maternal explanations/reasoning to increase subsequent child compliance and decrease child noncompliance more than commands/directives whereas I would expect commands/directives to increase subsequent child noncompliance and decrease child compliance more than explanations/reasoning. When affective component is taken into account, I would expect positively or neutrally toned explanations/reasoning to foster child compliance better than negatively toned explanations/reasoning. I would preserve the same expectation for the case of commands/directives as in chain 1.

Table 2

Chain 2

Lag 0 (Mother)

Lag 1 (Child)

Compliance

Noncompliance

Explanation/Reasoning

Command/Directive

Other

Chain #3. In the third chain, shown in Table 3, the effects of explanations/ reasoning versus criticism/threats (e.g.: “That was a very bad thing to do”) on child’s probability of

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displaying compliance or noncompliance were examined. I would expect maternal explanations/reasoning but not criticism/threats to increase subsequent child compliance and decrease child noncompliance whereas I would expect criticisms/threats but not explanations/reasoning to increase subsequent child noncompliance and decrease child compliance. My expectations regarding the combination of explanation/reasoning and affect were mentioned in chain 2. However, I would not expect affective tone to alter the effect of criticism/threat on child compliance. I would expect criticism/threat to undermine compliance irrespective of its affective tone.

Table 3

Chain 3

Lag 0 (Mother)	Lag 1 (Child)	
	Compliance	Noncompliance
Explanation/Reasoning		
Criticism/Threat		
Other		

Chain #4. In the fourth chain, shown in Table 4, the effects of child compliance on mother's probability of the subsequent responses were examined. Here, I combined some of the maternal response categories to form a functional unit of "ignore". For example, I thought that delivering explanation/reasoning, distraction/ suggestion, and commands/ directives was likely to have similar effects to ignoring the child's positive conduct when they were delivered after an instance of child compliance. In this chain, I would expect compliance to

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increase the likelihood of approval/praise more than functional ignore responses (explanation/reasoning, distraction/suggestion, commands/directives, and ignore) and criticism/threat. Regarding affective component of child responses, I would expect positively or neutrally delivered compliance to increase maternal approval/praise responses and decrease functional ignore responses, criticisms/threats.

Table 4

Chain 4

Lag 0 (Child)	Lag 1 (Mother)		
	Approval/Praise	Functional Ignore	Criticism/Threat
Compliance			

Chain #5. In the fifth chain, shown in Table 5, the effects of child noncompliance on mother's probability of the subsequent responses were examined. I would expect noncompliance to be followed by ignore rather than command/criticism (high power strategies) and explanation/distraction (low power strategies). Regarding affective component of child responses, I expect positively or neutrally delivered noncompliance to decrease command/criticism and explanation/distraction when compared to negatively delivered noncompliance.

Table 5

Chain 5

Lag 0 (Child)	Lag 1(Mother)		
	Ignore	Command/Criticism	Explanation/Distraction
Noncompliance			

Hypotheses Pertaining to Individual differences

In additional analyses an individual differences perspective was adopted. The goal of the sequential analyses was to identify verbal and affective channel combinations associated with adaptive and maladaptive outcomes. Adaptive maternal events were defined as those events that increased likelihood of subsequent child compliance and maladaptive maternal events were defined as those that increased the likelihood of child noncompliance. The events were combinations of nonaffective, verbal/behavioral categories with affective tone such as suggestions/ distractions that are affectively positively toned. The relative frequency of those events for each mother-child dyad were examined in relation to rates of committed and situational compliance, measures of internalized conduct (all three of which have been coded by raters blind to the hypothesized patterns in this study), in addition to maternal and teacher ratings of behavior problems.

For example, in families with higher frequencies of adaptive chains the rates of committed compliance and levels of internalization would be higher when compared to families with higher frequencies of maladaptive chains and vice versa. Another hypothesis

was that in families with higher frequencies of adaptive chains the rates of committed compliance would be higher than rates of situational compliance whereas in families with higher frequencies of maladaptive chains rates of situational compliance would be higher than committed compliance.

Method

Participants

The sample consisted of 117 preschool children (50 girls, 67 boys) with an age range of 32-74 months ($M = 54.3$, $SD = 11.12$). Mothers had an age range of 26.7-43.95 ($M = 36.19$, $SD = 3.59$) and the age of fathers ranged between 30.83 and 71.08 ($M = 40.21$, $SD = 5.71$). The majority of the sample was recruited from three private preschools (Yuzyl Isil, TEIS, Pinokyo) and preschool age children of Koc University staff also participated. Most of the participants were from high SES and intact (88.1%) families. 28.8% of mothers had a graduate degree whereas 46.6% of the mothers had college degrees, 11.9% had some college education and 10.2% of the mothers had a high school degree or less. 66.9% of the mothers were employed either part-time or full-time, whereas 99% percent of the fathers were employed full-time. Monthly family income was 3000 to 5000 TL (2000-3333 USD) for 15.3% of participants, 5000-7000 TL (3333-4666 USD) for 26.3% of participants, 10000 TL (6666 USD) for 39.8% of participants.

Procedure

The duration of total assessment was approximately 2.5hrs per child and took place at a lab decorated to look like a living room. The entire assessment was videotaped for later coding by undergraduate and graduate psychology students. The assessment consisted of mother-child dyadic contexts (one hour cumulative time) that simulate everyday contexts

(mom busy, snack time, clean-up, puzzle solving, free play) and contexts targeting child assessments on emotionality, effortful control.

In order to embed a high frequency of disciplinary exchanges, the assessment was designed to observe instances of both 'do' and 'don't' demands. The disciplinary exchanges for 'do' demands were observed during a clean-up context, and in order to observe disciplinary exchanges for 'don't' demands a standard prohibition paradigm was utilized. Upon entering the room, the experimenter introduced a table filled with attractive object/toys (RTT, meaning resistance to temptation, toys) that child was not allowed to play with and a set of less attractive but permissible toys were presented to the child (e.g. story books, puzzles). Mothers were asked to endorse the rule regarding the prohibition throughout the session.

Measures

Sequential Event Coding System for Mother-Child Interaction

The first 6 minutes of the session, the mother was asked to introduce the prohibition and orient the child toward permissible objects in the room. Then, mother was asked to fill some questionnaires while encouraging the child to engage in an activity on his/her own for another 15 minutes. This warm-up period, the first 10 minutes of the following mom-busy period and the initial 5 minutes of snack time was coded using sequential coding system described below. Each conversational turn was coded directly from the videotapes without full transcription of the exchanges. The coding involved two channels: a) non-affective channel, verbal/ behavioral and b) affective channel. The mutually exclusive and exhaustive codes to characterize events in the nonaffective, verbal/behavioral channel for both mothers and children are presented in Table 6. The codes in the affective channel apply to both

mothers and children and are listed in Table 7. The inter-rater reliabilities of affect codes, mothers' verbal codes and children's verbal codes are .80, .86, and .86, respectively.

Table 6. Mother and Child Nonaffective/ Verbal Channel Categories.

Partner	Code	Example
Mother	Command/Directive	"Come here." "Draw a Picture."
	Explanation/Reasoning	"You should not touch these toys because they belong to someone else."
	Approve/Praise	"That's my boy!" "Well done!" "It's a very nice picture."
	Encouragement	"I know you can do it" Nonverbal affection, e.g. kiss
	Criticism/ Contrary Suggestion/ Threat Physically Yanking Away	"You're not listening to me." "There <i>are</i> empty pages to draw?" "Stop that or we'll leave."
	Comment/Agree/ Respond to question Assist Child	"That's all right." "Yes, we can do that." "Try putting that puzzle piece first." (When in response to C seek assistance; in contrast, when a teaching initiative of M it would be coded under code-1 (command/directive)).
	Distract/Suggestion	"Oh, look! Have you seen these books?" "Why don't we read this book? You love this book." "You don't like dolls anyway"
	Close attention/ Monitoring Child	Mother silently monitors the child's activity
	Ignore/Uninvolved	Mother does not respond to child's attention bid, compliance or noncompliant and resisting behaviors etc. Includes instances when M works in questionnaires & unaware/uninvolved with C activity

Child

Table continued

Comply/Agree/Cooperate	“Ok mommy.” “Yes, I like that book.” Includes all nonverbal movements to cooperate and all instances of resignation and yielding to M’s power. Silently watches RTT toys.
Non-comply/Resist	“I want to play with them!” “I will touch them!” “No, I will draw a house not a rocket!” All instances of play with RTT toys are coded here unless given explicit permission by M
Negotiate/Seek permission	“When can I play with those?” “I will play with only one of them.”
Ask question/ Seek assistance/ Respond to questions Attention bid	“What is this for?” “I can not open this box.” “It’s a giraffe.” “Mom?...Mommy?”
Comment/At Play	“I’m drawing a blue car.” “I have the same puzzle at home.” At play by him/herself with permitted toys
Ignore	Child does not respond to mother’s attention bids, commands, directives etc.

Table 7. The codes in affective channel for both mothers and children.

Hedonic Tone	Discrete Categories
Positive	Exuberant/Excited Playful Content
Negative	Agitated/ Nervous/ Afraid/Guilty Whine/Complaint Irritated/Frustrated/Impatience Angry/ Hostile Disgusted/Contemptuous Sad/Hurt/Disappointed Bored
Neutral	

External Validity Measures

Children's internalization of maternal prohibition in the Resistance to Temptation Paradigm (RTT), children's rates of committed and situational compliance, total noncompliance in the clean-up setting, as well as maternal and teacher ratings of behavior problems was used in the external validity analyses. The contexts and measures are briefly explained below.

Child's internalization of maternal prohibition. In the RTT paradigm, the child was left alone in the room with the off-limit objects for eight minutes at the end of the visit (Kochanska & Aksan, 1995). At the beginning of the paradigm, the child was asked to work on a boring sorting task placed in front of the prohibited toys and reminded about the prohibition by the mother, before the E and the mother leave to the adjoining room. After a minute of being left alone, an unfamiliar female (temptress) entered the room and played with a predetermined set of three toys for one minute, and the child was left alone for another six minutes. Every 5 seconds of the 8 minute period was coded using a set of mutually exclusive

and exhaustive codes regarding child's rule-compatible conduct: a) full-blown play with prohibited toys, gentle touch, self-correction, looking without touching; busy with the sorting task, engaged with other activity. The interrater reliability, Kappa was .95 (Cebioglu, 2010).

Children's Committed and Situational compliance. The entire one-hour assessment of dyadic contexts has been evaluated for committed and situational compliance. Children's situational and committed compliance toward maternal directives along with three forms of noncompliance were coded in two contexts: the clean and the prohibited toy contexts. Committed compliance was coded when the child was compliant with the prevailing agenda (clean-up or staying away from off-limit objects) without constant maternal reminders, appeared willing and motivated to embrace maternal agenda (e.g. making comments such as 'I'm a good picker upper,' 'We don't touch them because they belong to someone else,' independently moving from one set of toys to another during clean-up). In contrast, situational compliance was coded when the child was cooperative with the prevailing maternal agenda in the presence of maternal reminders and support (e.g. distractions) but would easily get off-task. On the other hand, actions that involved ignoring maternal demand, overtly rejecting the agenda with simple refusals or trying to negotiate terms of compliance, or defying maternal agenda (throw temper tantrums or do the opposite of maternal demand) were coded as noncompliance. Kappa was .77 (Cebioglu, 2010).

Behavior Problem Ratings. The mothers were asked to fill the Child Behavior Checklist (CBCL/1.5-5; Achenbach & Rescorla, 2000). 99 items about externalizing and internalizing problems are rated on a 0 to 3 scale. Test-retest reliability ranged between .68 and .92 and there was a good inter-rater reliability with parents ($r = .65$). The checklist was adapted into Turkish by Erol (2002). Dümenci, Erol, Achenbach, and Şimşek (2004) demonstrated the generalizability of the checklist to Turkish population. Çorapçı, Aksan,

Aslan-Yalçın, and Yağmurlu (2010) also found the internal consistency for externalizing and internalizing behaviors to be .89 and .85 respectively.

The preschool teachers completed the 30-item short version Social Competence and Behavioral Evaluation Scale (SCBE-30, LaFreniere & Dumas, 1996). The items were rated on a 6-point Likert scale and tap children's social competence, anxious withdrawal and anger-aggression. The reliability of the short version was high and quite similar (.78 to .91) to the reliability of the original version (.72 to .89) which consisted of 80 items. The scale had also high internal consistency (.80-.92). This scale has been translated to Turkish by Corapci et al. (2010). They found internal consistency to be .87 for externalizing and .84 for internalizing behaviors. The 3-month test-retest reliability was moderate ($r=.45$) for internalizing behaviors and was strong ($r=.64$) for externalizing behaviors.

Results

The results are presented in two sections. In the first section, event sequential analyses were conducted in order to elucidate whether affective channel influenced subsequent behaviors of mothers and children. To be able to answer those questions, log-linear analyses were used. A more specific question was whether the affect with which a verbal/behavioral exchange is delivered, changed the probability of subsequent behavior of partners. Transitional probabilities between affective and verbal channel combination at lag-0 and the subsequent behavioral channel at lag-1 were computed to answer this question. In the second section, external validity analyses were conducted adopting an individual differences perspective. The relative frequencies of event-sequences were examined in relation to rates of committed and situational compliance, noncompliance, internalization of maternal prohibition (RTT) which were coded by independent coders. The relative frequency of event sequences

were also examined in relation to maternal and teacher reports of externalizing symptoms, and teacher reports of social competency.

Event-sequential Analyses

The first goal was to evaluate whether affective tone alters subsequent behavior in the verbal channel between mothers and their children. This question was examined in the context of five two-event sequences. Each sequence targeted specific categories of verbal/behavioral exchanges between the speakers. Three of those two-event sequences began with mother as speaker and two began with child as speaker. Because the data in both the verbal and affective channels were categorical, log-linear analyses were conducted (Bakeman & Gottman, 1997). For this purpose, the combination of affective and verbal channels events at lag-0 was crossed with combination of affective and verbal channel events at lag-1. Hence while the dimensionality of the tables remained the same in all two-event sequences, the size of tables varied from one sequence to another to reflect different categories of verbal channel events. Table 8 shows the cross-tabulated frequencies for the first two-event sequence. For example, 124 of positively delivered distractions/suggestions were followed by positively toned child compliance whereas only 7 were followed by negatively toned compliance. The dyad specific tabulations for each of five two-event sequences were summed across all 117 dyads to have sufficient density in observations to evaluate the question of interest.

The resulting table of frequencies was submitted to log-linear analysis to test whether affective channel at lag-0 altered the frequency distribution of verbal channel events at lag-1. Log-linear models are similar to analysis of variance except the dependent variable is cell

frequencies (Bakeman & Gottman, 1997). Three nested models were examined for each of the five two-event sequences. The models made progressively less stringent assumptions about the relationship of events at lag-0 to those at lag-1. The terms included in those models are presented in Table 9. I will next explain the assumptions being tested in each model.

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Table 8
Distribution of Child Compliance and Noncompliance preceded by Maternal Affect and Verbal Exchange Combination

Lag 0 Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Verbal/Behavioral Exchange & Lag 1 Affect								
		Comply			Noncomply			Other		
		Positive	Negative	Neutral	Positive	Negative	Neutral	Positive	Negative	Neutral
Distraction/Suggestion	Positive	124	7	191	18	4	56	28	4	77
	Negative	10	6	30	37	17	143	9	5	28
	Neutral	89	10	453	32	8	185	49	3	156
Commands/Directives	Positive	110	48	226	22	47	56	19	23	121
	Negative	12	84	105	19	141	149	6	16	42
	Neutral	92	109	887	19	55	189	30	34	266
Other	Positive	26	6	50	31	29	66	1494	86	2540
	Negative	12	20	36	19	46	108	81	48	509
	Neutral	22	25	172	44	35	232	954	85	4664
	N	497	315	2150	241	382	1184	2670	304	8403

Note. The numbers in cells represent the frequency of each observation.

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Table9. Models that test for communicative function of affect controlling for lawful verbal-to-verbal transitions.

Terms:		Model 1 V@0, A@0, V@1, A@1 V@0*A@0, V@1*A@1	Model 2 V@0, A@0, V@1, A@1 V@0*A@0, V@1*A@1 V@0*V@1, A@0*A@1	Model 3 V@0, A@0, V@1, A@1 V@0*A@0, V@1*A@1 V@0*V@1, A@0*A@1 V@0*A@0*V@1
Chain 1	df	64	56	44
	Chi-sq	10.318	536.19	226.46
	Δ chi-sq		9781.81	309.73
Chain 2	df	64	56	44
	Chi-sq	6277.82	355.33	170.07
	Δ chi-sq		5922.49	185.26
Chain 3	df	64	56	44
	Chi-sq	2397.2	627.93	135.97
	Δ chi-sq		1769.27	491.96
Chain 4	df	88	78	61
	Chi-sq	4250.68	2263.2	1035.19
	Δ chi-sq		1987.48	1228.01
Chain 5	df	88	78	61
	Chi-sq	5693.93	3224.93	1014.48
	Δ chi-sq		2469	2210.45

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Abbrev. A stands for affective and V stands for verbal-behavioral exchange.

The first model in Table 9, made the assumption that none of the events lag-1 could be predicted from events lag-0. In other words, this was a null model of no communication between two speakers. The model did allow for lawful relationships between affective tone and verbal-behavioral exchanges at a given lag. For example, commands may be more likely to be delivered with a negative affective tone than positive or neutral. If this model fitted the data adequately as judged by a non-significant log-likelihood chi-square statistic, we would not need to test additional models.

Model 2 made the assumption that verbal/behavioral exchange at lag 0 predicted verbal/behavioral exchange at lag 1 and that affect at lag 0 predicted affect at lag 1. In other words, this model assumed that there were lawful transitions within affective and within verbal/behavioral exchange channels. If this model improved fit relative to Model 1, then we would have evidence that there were significant verbal-to-verbal and affect-to-affect transitions from lag-0 to lag-1, or communication within specific channels.

Model 3 included the term that would provide the answer to the question of central interest in this thesis. This model made the assumption that affect at lag 0 in combination with verbal channel at lag 0 predicted verbal channel at lag 1. If Model 3 improved fit relative to Model 1 and 2, then we would have evidence that after controlling for lawful affect-to-affect and verbal-to-verbal transitions, affect at lag 0 significantly predicted verbal at lag 1.

All three of those models were nested in each other. Hence, the relative improvement in fit they provided for the cell frequencies could be tested with change in likelihood chi-square statistic. As can be seen from Table 9, the results showed that in all five two-event

sequences, affect at lag 0 improved the prediction of verbal channel events significantly at lag-1. This means that affect has a communicative function and changes the likelihood of the following verbal/behavioral exchange among mothers and children.

In order to examine the specific effects of affective tone at lag-0 on verbal channel at lag-1 over and above the effects of verbal channel at lag-0, transitional probabilities were computed. Transitional probabilities are simple conditional probabilities computed over time. For each two-event sequence, the baseline transitional probabilities between specific verbal events at lag-0 and specific verbal events at lag-1 were computed. In addition, transitional probabilities taking into account the specific affective channel code at lag-0 were computed. If the latter more specific transitional probabilities taking into account affective tone at lag-0 were significantly different than baseline transitional probabilities that considered only events in the verbal channel, then specific roles for affective tone could be specified. The significance of transitional probabilities were based on significance of adjusted cell residuals derived from Model 2 (the model that omits the term that lag-0 affect improves prediction of lag-1 verbal event) (Bakeman & Gottman, 1997).

Table 10 presents the lag-0 to lag-1 baseline transitional probabilities between verbal channel events ignoring the affective tone at those lags, as well as the transitional probabilities taking into account affective tone at lag-0. In addition, Table 3 indicates whether the two transitional probabilities are significantly different from each other. For example, the baseline probability of maternal distraction/suggestion being followed by child noncompliance at lag-1 is .28. However, if the maternal distraction/suggestion is delivered with a negative affective tone, the probability of child noncompliance at lag-1 increases to .45 and this difference is

significant. Positively delivered commands increased the likelihood of compliance whereas when delivered negatively, commands decreased the likelihood of compliance.

Table 10

Change in transitional probabilities among mother and child verbal-behavioral exchanges given affective tone at previous lag.

Chain	Lag 0	Lag 1	Base Rate	Transitional Probability		
				Positive	Neutral	Negative
1	M-Dist-> C-Comply		0.52	0.56	0.51	0.36
	M-Dist-> C-Noncomply		0.28	0.22	0.29	0.45*
	M-Comm-> C-Comply		0.57	0.65*	0.59	0.43*
	M-Comm-> C-Noncomply		0.24	0.18	0.19	0.43
2	M-Expl-> C-Comply		0.39	0.34	0.46	0.19
	M-Expl-> C-Noncomply		0.25	0.14	0.24	0.33
3	M-Criticism-> C-Comply		0.31	0.33	0.36	0.23*
	M-Criticism-> C-Noncomply		0.37	0.38	0.28	0.50*
4	C-Comply->M-Praise		0.08	0.13*	0.08*	0.02
	C-Comply->M-FI		0.74	0.36*	0.90*	0.75
	C-Comply->MCriticism		0.02	0.02	0.02	0.09
5	C-Noncomply->M-Ignore		0.08	0	0.14	0.01
	C-Noncomply->M-Comm-Crit		0.54	0.32*	0.45*	0.78
	C-Noncomply->M-Expl-Dist		0.31	0.34	0.41	0.12

Abbr. M stands for mother and C stands for child; Dist stands for distraction, Comm stands for command, Expl stands for explanation, FI stands for functional ignore. * indicates cells with significant adjusted residuals at $p < .05$.

Note. The transitional probabilities for M-Comm in Chain 2 are not displayed since the adjusted residuals of M-Comm work the same way as in Chain 1.

Similarly, criticisms decreased the likelihood of compliance when they were delivered negatively and instead increased the likelihood of noncompliance significantly. Those two-event sequences that begin with child events at lag-0 are also presented in Table 10. Results showed that when child displayed compliance with a positive tone, they were more likely to receive praise and less likely to be ignored by mothers. However, compliance was more likely to be ignored if delivered neutrally. Finally, child noncompliance when delivered positively or neutrally was less likely to be followed by a maternal command or criticism.

The findings based on transitional probabilities highlighted maladaptive sequences rather than adaptive sequences that promoted compliance. Based on literature, we would expect mother's use of low power strategies (e.g. distraction/suggestion and explanation/reasoning) to be followed by compliance more often than high power strategies (e.g.: commands/directives and criticism/threat). Yet, even positively delivered distraction/suggestion and explanation/reasoning did not increase the likelihood of compliance whereas positively toned command/directives significantly increased the likelihood of compliance.

The expectations regarding the effects of mother's verbal channel on child compliance were partially supported as well. Although it was hypothesized that low power strategies would increase compliance and decrease noncompliance when compared to high power strategies, the transitional probabilities failed to confirm this expectation. Furthermore, negatively delivered distraction increased the likelihood of noncompliance whereas negatively toned commands did not. In contrast, positively toned commands increased the likelihood of compliance and also did not change the likelihood of noncompliance. Additionally, criticism was expected to undermine compliance and increase noncompliance irrespective of the affect

it is delivered with. However, in Table 10 it can be observed that only negatively delivered criticism decreased compliance and increased noncompliance.

To summarize, looking at the transitional probability table, it can be observed that high power strategies were detrimental for compliance only when delivered negatively. Furthermore, they did not undermine compliance to a greater extent than low power strategies. Even distractions/suggestions that were expected to be “adaptive” strategies in terms of fostering compliance did not increase compliance and even increased the likelihood of noncompliance if delivered negatively. Thus, it can be inferred that the affective component of maternal input is more influential on compliance than the verbal component.

External Validity Analyses

The second phase of analyses focused on external validity of affective-verbal channel events evaluated in event-sequential analysis. External validity measures included the following: observer measures of rates of committed and situational compliance and noncompliance in the prohibited-toy and clean-up context, internalization of prohibited conduct (RTT), maternal ratings of externalizing symptoms, and teacher ratings of social competency and anger/aggression.

To this end, the relative frequencies of the coded sequences were computed for each mother-child dyad. The relative frequencies were computed by dividing the number of observations of interest that was recorded for each dyad by the total number of observations for that dyad. The observations of interest were different for each hypothesis (chain). For example, the events of interest regarding hypothesis 1 were those that started with mother’s use of distraction and commands. If a mother was observed to issue neutrally toned

commands 10 times during the interaction period and the number of all recorded events that start with mother's distraction and commands for that dyad was 274, then the relative frequency of neutrally toned commands for that family is 0.04.

All of the external validity analyses below were conducted based on the relative frequencies of the observed events.

Descriptive statistics. Table 11 presents the descriptive statistics for the relative frequencies of coded event-sequential chains. Note that the event-sequences were generally rare. Some sequences were observed more often than others. For example neutrally delivered commands ($M = .062$) were observed more frequently than negatively delivered distractions ($M = .001$). Note that the Table 11 also presents the correlations of sequences with child's and mother's age, family SES, and F-statistics associated with gender differences in each of those measures.

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Table 11
Descriptives for coded chains and their correlations with demographic variables

Interaction Sequences			M	SD	Min	Max	F (Sex Difference)	Child Age	Mother Age	SES
Lag 0										
Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Outcome								
M-Distraction	Positive		.011	.011	0	.06	.99	-.30*	-.02	.01
	Negative		.001	.003	0	.02	2.47	.11	-.01	-.10
	Neutral		.041	.019	0	.09	.33	-.19*	.03	.09
M-Explanation	Positive		.001	.002	0	.02	1.89	-.11	.10	-.04
	Negative		.001	.003	0	.02	.65	-.06	.12	-.27*
	Neutral		.008	.006	0	.03	1.7	-.07	-.007	-.26*
M-Commands	Positive		.010	.009	0	.04	.001	-.11	.05	-.02
	Negative		.015	.026	0	.20	7.97*	-.13	-.05	-.15
	Neutral		.062	.029	0.02	.17	5.52*	-.06	-.16	-.18*
M-Criticism	Positive		.002	.003	0	.01	.06	-.001	.16	.11
	Negative		.003	.008	0	.07	1.07	.03	-.04	-.17
	Neutral		.006	.005	0	.02	.39	-.001	-.06	-.12
C-Compliance	Positive	M-Praise	.002	.003	0	.01	.40	-.17	.01	-.07
	Negative		.0001	.0005	0	0	.02	-.12	.07	-.38**
	Neutral		.003	.004	0	.02	.16	-.18*	.004	-.05
	Positive	M-Ignore	.006	.007	0	.03	.09	-.14	-.004	-.06
	Negative		.003	.006	0	.03	4.78*	-.07	-.004	-.15
	Neutral		.038	.020	0	.12	1.99	.07	.02	.09

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C-Noncompliance	Positive	M-Criticism	.0003	.001	0	0	.22	-.03	.03	.14
	Negative		.0004	.001	0	.01	.55	-.05	.11	-.10
	Neutral		.0008	.001	0	.01	.49	-.09	-.08	-.07
	Positive	M-Ignore	.0002	.001	0	.01	1.73	.05	.10	-.03
	Negative		0	0	0	0				
	Neutral		.008	.006	0	.03	1.35	.10	.10	.03
	Positive	M-Comm-Crit	.002	.003	0	.01	.03	-.03	-.02	.03
	Negative		.002	.005	0	.03	4.94*	-.03	.01	-.17
	Neutral		.018	.013	0	.06	1.51	.03	-.06	-.14
	Positive	M-Expl-Dist	.003	.005	0	.02	.003	-.18	-.01	-.07
	Negative		.0006	.001	0	.01	1.6	-.11	.02	-.04
	Neutral		.012	.008	0	.04	.21	.03	.04	-.05

Abbr. M stands for mother, C stands for child, Comm stands for command, Crit stands for criticism, Expl stands for explanation and Dist stands for distraction.

Note. * $p < .05$ ** $p < .01$

As can be seen from Table 11, gender differences were observed for neutrally and negatively delivered maternal commands. Boys ($M_{\text{neg}} = .02$, $M_{\text{neu}} = .07$) received more neutrally and negatively toned commands than girls ($M_{\text{neg}} = .007$, $M_{\text{neu}} = .05$). Gender differences were also noted in maternal responses to negatively toned compliance and noncompliance. After negatively toned compliance, boys ($M = .004$) were ignored more often than girls ($M = .001$). However, after a negatively toned noncompliance, boys ($M = .004$) received commands/criticisms more often than girls ($M = .001$). Gender differences were also noted in three out of ten external validity measures (Table 12). For example, boys ($M = .10$) showed more situational compliance in the don't context than girls ($M = .06$) and were less internalized ($M = -.14$) than girls ($M = .20$). Boys ($M = -.15$) were reported to be less socially competent than girls ($M = .27$) by their teachers as well.

Table 12
Descriptives for external validity measures and their correlations with demographic variables

		M	SD	F (Sex Difference)	Child Age	Mother Age	SES
Don't context	Committed Compliance	.77	.24	3.44	.32**	.18	.04
	Situation Compliance	.08	.07	6.2*	-.18	-.13	.11
	Noncompliance	.26	.37	.47	-.33**	-.14	-.04
Do context	Committed Compliance	.44	.33	.005	.38**	.19	.06
	Situation Compliance	.34	.22	1.35	-.27**	-.09	.05
	Noncompliance	.26	.32	.16	-.34**	-.18	-.18
	RTT	0	.86	4.64*	.25**	.25**	.08
Mother Report	Externalizing Symptoms	11.66	5.68	.51	-.26**	-.15	-.02
Teacher Report	Social Competency	.02	1	4.36*	.08	.18	.19*
	Anger/Aggression	-.02	1	.62	-.35**	-.11	.01

Note. * $p < .05$ ** $p < .01$

Child's age was significantly correlated with rates of event-sequential data for only a few chains (Table 11). As children got older, they received fewer distractions either negatively or neutrally toned, and were praised less often after neutrally toned compliance. In contrast, child's age was significantly correlated with majority of external validity measures, including internalization of prohibition, compliance and noncompliance in both "do" and "don't" contexts except situational compliance in "don't" context, in addition to maternal and teacher ratings (Table 12). Internalization of prohibition increased with age as well as rates of committed compliance in both do and don't contexts, while noncompliance decreased. As child's age increased, maternal and teacher ratings of externalizing symptoms decreased as well.

Similarly, family SES was correlated with only three event-sequential codes (Table 11). The rates of neutrally and negatively delivered explanations and praise after negatively delivered compliance decreased as SES increased. Teacher's opinion about children's social competency was also correlated with SES. As SES increased, teachers rated children as more socially competent.

Mother's age was not correlated with any of the event-sequential codes. However, it was significantly correlated with observations of internalization of prohibited conduct (RTT) (Table 12). Children of older mothers displayed better internalization in the RTT paradigm.

Bivariate Associations Between Event-Coding and External Validity Measures. The event-based coding at lag-0 and lag-1 focused on interactions in warm-up, mom-busy and snack time contexts. These contexts were also evaluated for qualitative distinctions in children's compliance, committed and situational, and noncompliance toward prohibited toys,

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the “Don’t” context, by a different set of coders. While rates of event-sequential data characterized events in relation to child compliance and noncompliance in smaller conversational turns, the measures of committed, situational compliance and noncompliance characterized child conduct over longer units of time and with greater sensitivity to motivational distinctions in child’s compliance with one type of maternal demand, not touching prohibited toys. Hence, we would expect rates of event-sequential data to show the strongest correlations with rates of committed, situational compliance and noncompliance in the “Don’t” context. Table 13 presents the pertinent correlations.

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Table 13
Correlations Among Coded Chains and Observed Rates of Compliance and Noncompliance in Don't Context

Interaction Sequences		Committed Compliance	Situational Compliance	Noncompliance	
Lag 0 Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Outcome			
M-Distraction	Positive		-.30**	.19*	.32**
	Negative		-.38**	.27**	.36**
	Neutral		.08	-.06	-.01
M-Explanation	Positive		-.07	.09	.07
	Negative		-.38**	.11	.33**
	Neutral		-.06	-.09	.12
M-Commands	Positive		-.11	.05	.15
	Negative		-.54**	.44**	.55**
	Neutral		-.13	.05	.03
M-Criticism	Positive		-.02	.16	-.03
	Negative		-.37**	.16	.39**
	Neutral		-.03	.01	-.03
M-Distraction	Positive	C-Compliance	-.16	.06	.20*
	Negative		-.14	.13	.12
	Neutral		.34**	-.25**	-.26**
M-Explanation	Positive		-.14	.12	.16
	Negative		-.25*	.08	.18

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	Neutral		-.02	.006	.01
M-Commands	Positive				
	Negative		-.42**	.37**	.39**
	Neutral		.17	-.15	-.24
M-Criticism	Positive		.04	.09	-.07
	Negative		-.26**	.10	.27**
	Neutral		.09	-.05	-.14
M-Distracton	Positive	C-Noncompliance	-.45**	.36**	.45**
	Negative		-.37**	.25**	.40**
	Neutral		-.24*	.21*	.24**
M-Explanation	Positive		-.18+	.13	.11
	Negative		-.39*	.15	.34**
	Neutral		-.23*	.03	.32**
M-Commands	Positive		-.23*	.28**	.32**
	Negative		-.58**	.42**	.59**
	Neutral		-.42	.19*	.35**
M-Criticism	Positive		-.06	.06	.04
	Negative		-.33**	.14	.34**
	Neutral		-.13	.04	.06
C-Compliance	Positive	M-Praise	-.02	-.07	.03
	Negative		-.12	.03	.12
	Neutral		-.09	-.14	-.06
	Positive	M-Ignore	-.09	.05	.09
	Negative		-.40**	.30**	.36**
	Neutral		.13	-.13	-.16

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C-Noncompliance	Positive	M-Criticism	.11	-.03	-.11
	Negative		-.34**	.17	.32**
	Neutral		.05	-.11	-.08
	Positive	M-Ignore	.10	-.12	-.09
	Negative				
	Neutral		.11	-.07	-.11
	Positive	M-Comm-Crit	-.04	.06	.05
	Negative		-.40**	.28**	.35**
	Neutral		.07	-.16	-.12
	Positive	M-Expl-Dist	-.10	.05	.09
	Negative		-.38**	.29**	.38**
	Neutral		.14	-.04	-.15

Note. * $p < .05$ ** $p < .01$

Abbr. M stands for mother, C stands for child, Comm stands for command, Crit stands for criticism, Expl stands for explanation and Dist stands for distraction.

The analyses in phase-1 had indicated that negatively toned distractions and commands were more likely to lead to noncompliance and could thus be considered maladaptive. When an individual differences perspective was adopted, distractions/suggestions whether positive or negatively toned were associated with lower rates of committed and higher rates of situational compliance and noncompliance. The same was true for negatively toned commands and criticism. We could also see that this pattern of correlations were generally true irrespective of whether when negatively toned distractions, commands or criticisms were immediately followed by child compliance or noncompliance. Together, this pattern would suggest that securing immediate child compliance in brief interaction sequences did not translate to securing the kind of compliance, i.e. committed compliance, which is typically associated with positive socialization outcomes (Kochanska & Aksan, 1995).

An important second pattern we can discern from the correlations in Table 13 was that, detrimental effects of negatively toned distractions, commands or criticisms were generally not apparent when those verbal strategies were either positively or neutrally delivered. This is by and large consistent with the findings from event-sequential analyses in phase-1. Those analyses did not indicate that positively or neutrally toned strategies led to greater compliance, but they indicated that negatively toned distractions and criticism altered likelihood of subsequent child noncompliance. One important exception was neutrally delivered distraction/suggestions. The correlations in Table 13 indicated that neutrally delivered distraction/suggestions that evoked child compliance were associated with greater rates of committed compliance and lower rates of both situational compliance and noncompliance. In

fact, this was the only interaction sequence that suggested how affective tone could lead to adaptive outcomes in both the short- and long-term.

A third pattern we can discern from Table 13 was that all significant correlations with rates of committed compliance in the ‘Don’t’ context were always negative in contrast to the positive correlations of situational compliance and noncompliance with relative frequency of event-sequence data. This pattern of correlations suggested that the interaction sequences of maternal demand followed by child compliance or noncompliance were likely to be useful in understanding situational compliance and child’s noncompliance but not useful in predicting in child’s committed compliance. This is reasonable in that children who display higher rates of committed compliance in relation to the prohibited toys may not be requiring mothers to deliver demands such as distractions/suggestions, commands, criticisms or explanations whether with respect to prohibited toys or with respect to other routine demands mothers of preschool-aged children have.

Those patterns in Table 13 which were sensitive to individual differences were consistent with observations on the basis of event-sequential analyses that did not take individual differences into account. For example, event-sequential analyses had indicated that affective tone at lag-0 altered subsequent verbal channel events. However, those sequences never indicated which combination of verbal and affective events at lag-0 increased subsequent child compliance. Together with analyses sensitive to individual differences, the results suggested that event-sequential perspective informs maladaptive processes but did not inform adaptive processes that promoted child compliance, particularly committed compliance. In other words, the compliance observed in event-sequential data appeared to better reflect child’s cooperation with maternal demands in moment-to-moment to

transactions, what was measured by situational compliance rather than child's committed compliance with maternal demands. The latter form of compliance represents a ready willingness to go along with maternal demands, rendering maternal reminders (distraction, commands, explanations, criticism, etc.) about previously established demands unnecessary.

Note that the relative frequencies of event-sequence data were not based on exchanges in the clean-up context. Table 14 extends the external validity examination for the affective tone of maternal verbal channel to observed measures in the clean-up or "Do" context, children's situational compliance, noncompliance, and RTT contexts. The bivariate associations are presented in the first column, and the multivariate associations, in standardized beta terms, are presented in the second column controlling for child's age and sex. In the prediction of situational compliance and noncompliance in the "do" context, in addition to sex and age, child's committed compliance rates in the "Do" context was partialled out. Statistically removing committed compliance in the prediction of situational compliance and noncompliance in this table permitted an assessment of the associations without confounding them with child's ready willingness to comply with maternal 'Do' demands.

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Table 14

Correlations Among Coded Mother Chains and Observed Rates of Situational Compliance and Noncompliance in Do Context and RTT and Standardized Beta Coefficients

Interaction Sequences	Lag 0 Affect	Situational Compliance		Noncompliance		RTT	
		r	B	r	B	r	B
M-Distracton	Positive	.11	-.08	.17	-.01	-.30**	-.25*
	Negative	-.14	-.14*	.19*	.14+	-.32**	-.24*
	Neutral	.17	-.07	-.01	-.05	.07	.07
M-Explanation	Positive	-.13	-.08	-.01	.004	-.06	.003
	Negative	-.21*	-.32*	.33**	.24*	-.23*	-.19*
	Neutral	-.03	-.08	.13	.05	-.03	-.03
M-Command	Positive	.10	-.002	.01	-.07	-.13	-.11
	Negative	-.13	-.22*	.25**	.17*	-.45**	-.40*
	Neutral	-.02	-.05	.04	.04	0	.05
M-Criticism	Positive	.14	.14*	-.07	-.06	-.02	-.03
	Negative	-.15	-.25*	.30**	.24*	-.27**	-.26*
	Neutral	-.01	.04	-.03	-.007	.05	.06

Abbr. M stands for mother.

Note. * $p < .05$ ** $p < .01$

The bivariate associations revealed that all negatively delivered maternal strategies (distraction, explanation, command, and criticism) increased noncompliance, decreased situational compliance and internalization scores. Consistent with the bivariate associations for the majority of sequences, negatively delivered distractions, explanations, commands and criticisms, predicted lower rates of situational compliance, lower scores on internalization of prohibited conduct as well as higher rates of noncompliance. Specifically, mother's negative affective tone mattered more than her verbal input in terms of predicting situational compliance, noncompliance in the "Do" context and internalization of the "Don't" prohibition.

Table 15 examines the two-event sequences that begin with child's compliance and noncompliance in relation to observed external validity variables. Both bivariate and multivariate associations, in standardized beta terms, are presented. The multivariate associations controlled for child's age and sex. As can be seen in Table 15, only the chains that start with negatively toned compliance significantly predicted external validity variables. Negatively toned compliance irrespective of subsequent maternal reactions predicted lower rates of situational compliance. In addition, negatively toned compliance when followed by criticism predicted higher rates of noncompliance with the clean-up request. Instances of children's positively or negatively toned compliance followed by maternal ignore predicted lower standing on internalization.

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Table 15

Correlations Among Coded Child Chains and Observed Rates of Situational Compliance and Noncompliance in Do Context and RTT and Standardized Beta Coefficients

Interaction Sequences			Situational Compliance		Noncompliance		RTT	
Lag 0 Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Outcome	r	B	r	B	r	B
C-Compliance	Positive	M-Praise	.02	-.02	.01	-.05	-.05	-.02
	Negative		-.12	-.16+	.14	.11	-.13	-.09
	Neutral		.03	-.03	.07	.02	.02	-.08
	Positive	M-Ignore	-.02	-.05	.07	.02	-.27**	-.22*
	Negative		-.19*	-.20*	.17	.15	-.34**	-.28*
	Neutral		-.03	.005	-.07	-.07	.01	.02
	Positive	M-Criticism	.12	.11	-.14	-.11	.02	-.01
	Negative		-.20*	-.17*	.21*	.22*	-.19*	-.19*
	Neutral		.03	-.001	.09	.07	-.02	-.01
C-Noncompliance	Positive	M-Ignore	-.08	-.05	-.07	-.06	.16	.19*
	Negative							
	Neutral		-.05	-.01	-.01	.02	-.06	-.10
	Positive	M-Comm-Crit	.06	.02	-.10	-.10	-.14	-.16+
	Negative		-.22*	-.22*	.18*	.16+	-.29**	-.27*
	Neutral		-.02	.01	-.05	-.07	.04	.06
	Positive	M-Expl-Dist	-.03	-.06	.16	.10	-.32**	-.25*
	Negative		-.12	-.14	.17	.12	-.39**	-.31*
	Neutral		.004	.009	-.07	-.06	.02	.004

Abbr. M stands for mother, C stands for child, Comm stands for command, Crit stands for criticism, Expl stands for

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explanation and Dist stands for distraction.

Note. * $p < .05$ ** $p < .01$

On the other hand, positively toned noncompliance followed by ignore predicted higher scores on internalization. Furthermore, negatively toned noncompliance when followed by commands/criticism predicted lower scores on internalization. However, both positively and negatively delivered noncompliance when followed by explanation/distraction also predicted lower scores on internalization. In other words, regardless of how noncompliance was received or responded to by mothers (with commands, criticism, explanation or distraction), the result was similar: lower scores on internalization. In addition, negatively toned noncompliance when followed by commands/criticism predicted lower rates of situational compliance and higher rates of noncompliance in the clean-up context. Those patterns in findings were also obtained when regressions controlled for committed compliance and SES.

Overall, it can be concluded that negatively toned compliance was a precursor of lower levels of situational compliance during clean-up irrespective of how mothers chose to respond to it. Criticizing negatively toned compliance also predicted higher levels of noncompliance. Ignoring compliance and responding to noncompliance with commands/criticisms and explanation/distraction had detrimental effects on children's internalization behavior. The analyses suggested that ignoring noncompliance may be the only adaptive response in terms of fostering cooperation and subsequent internalization.

Table 16 presents the two-event sequences in relation to maternal and teacher ratings of externalizing behaviors and teacher ratings of social competency. Mothers who issued negatively toned commands and mothers who ignored positively or negatively toned noncompliance reported higher levels of externalizing symptoms. Negatively toned noncompliance when followed by either commands/directives or explanation/reasoning also

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predicted higher levels of externalizing symptoms. When followed by explanation/reasoning, negatively toned noncompliance also predicted higher scores on teacher's report of externalizing symptoms (anger/aggression). This was the only two-event sequence that showed parallel associations for maternal and teacher ratings of externalizing symptoms.

Table 16
Correlations Among Coded Chains and Mother and Teacher Ratings and Standardized Beta Coefficients

Interaction Sequences			M- Externalizing symptoms		T-Social Competency		T- Anger/Aggression	
			r	B	r	B	r	B
Lag 0								
Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Outcome						
M-Distraction	Positive		.10	.03	-.06	-.05	.09	-.006
	Negative		.20*	.12	-.15	-.10	.19	.13
	Neutral		-.12	-.15	.03	.008	-.06	-.10
M-Explanation	Positive		-.05	-.10	-.02	.03	.02	-.02
	Negative		.13	.09	-.09	-.05	.008	-.02
	Neutral		.09	.09	-.14	-.16	.18	.15
M-Command	Positive		.02	.04	.10	.07	-.17	-.17
	Negative		.29**	.24*	-.14	-.07	.11	.06
	Neutral		.17	.14	-.28**	-.23*	.14	.08
M-Criticism	Positive		-.14	-.14	.23*	.23*	-.16	-.16
	Negative		.15	.14	.07	.10	-.03	-.02
	Neutral		.07	.07	-.06	-.06	.05	.06
C-Compliance	Positive	M-Praise	-.30	-.08	.10	.15	.04	-.009
	Negative		.15	.14	-.06	-.09	.02	-.01
	Neutral		.12	.10	-.21*	-.21*	.15	.09
	Positive	M-Ignore	.17	.13	-.06	-.04	.09	.08
	Negative		.27**	.24*	-.06	-.001	.14	.11

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	Neutral		.05	.05	-.03	-.15	.14	.16
C-Noncompliance	Positive	M-Criticism	-.09	-.07	.19	.16	-.007	-.02
	Negative		.12	.12	.06	.10	.04	.07
	Neutral		.11	.10	-.03	-.05	.14	.11
	Positive	M-Ignore	.21*	.21*	-.01	.01	.05	.04
	Negative							
	Neutral		.04	.02	-.02	-.01	.18	.19
	Positive	M-CommCrit	.008	.04	.08	.09	-.05	-.04
	Negative		.25**	.22*	-.02	.06	.08	.06
	Neutral		.13	.10	-.05	-.02	.14	.13
	Positive	M-Expl-Dist	.18	.11	-.10	-.07	.16	.10
	Negative		.26**	.21*	-.12	-.07	.26**	.23*
	Neutral		-.06	-.05	.02	.01	.03	.05

Abbr. M stands for mother, T stands for teacher, C stands for child, Comm stands for command, Crit stands for criticism, Expl stands for explanation and Dist stands for distraction.

Note. * $p < .05$ ** $p < .01$

Finally, even children of mothers who relied on neutrally toned commands were rated as less socially competent by their teachers. Two findings with respect to teacher's social competency ratings were difficult to explain. Specifically, positively toned criticisms received higher scores on social competency ratings and children who received praise after delivering neutrally toned compliance were perceived to be less socially competent by their teachers. The versions of the regressions controlling also for committed compliance and SES revealed the same results.

Overall, commands delivered either neutrally or negatively predicted less adaptive outcomes in terms of mother's and teacher's ratings. Mothers who tended to ignore their children's negatively toned compliance and positively toned noncompliance, reported higher externalizing symptoms of their children as well as mothers who also tended to make explanations following a negatively toned noncompliance. In general, most of the interaction sequences did not enable us to predict teacher ratings on social competency and externalizing symptoms.

Discussion

The main goal of this thesis was to investigate the effects of maternal parenting strategies and affective tone on children's subsequent response as well as the effects of child verbal/behavioral exchange and affective tone on mothers' subsequent response. More specifically, the influence of affect in combination with the accompanying parenting strategy was examined. Furthermore, the coded event-sequential chains were analyzed in comparison with independent observations of committed compliance, situational compliance, noncompliance in both do and don't contexts, and internalization of prohibited conduct (RTT) that constitute longer-term outcome measures than brief moment-to-moment transactions. In

addition, mother and teacher reports of externalizing symptoms and teacher's report of social competency were used to compare the interaction sequences with reports that provide information about children's behavior outside the lab context. Another goal was to elucidate the differences between Turkish and American families in terms of how they build a relationship that is adaptive for fostering committed compliance and eventually internalization behavior of children and more specifically how affective tone works within this relationship.

The first three hypotheses pertained to the effects of lower power (distraction/suggestion and explanation/reasoning) versus high power (command/directive and criticism/threat) parenting strategies and affective tone on subsequent child behavior. Low power parenting strategies were expected to increase subsequent child compliance and decrease child noncompliance more than high power strategies. Furthermore, positively or neutrally toned parenting strategies were expected to foster compliance more than negatively toned strategies.

The last two hypotheses pertained to the effects of child's compliance versus noncompliance and affective tone on mother's subsequent response. Child compliance was expected to be followed by praise more frequently than by functional ignore (explanation/reasoning, distraction/suggestion, commands/directives, and ignore) and criticism/threat. On the other hand, child noncompliance was expected to be followed by ignore more frequently than by high power and low power parenting strategies. Moreover, positively and neutrally delivered compliance was expected to increase praise and decrease functional ignore responses and criticism/threat more than negatively delivered compliance. Similarly, positively and neutrally delivered noncompliance was expected to decrease commands, criticisms, distractions and explanations when compared to negatively delivered noncompliance.

The hypotheses were partially supported. Low power parenting strategies did not increase compliance and decrease noncompliance more than high power parenting strategies. In fact, negatively toned distraction/suggestions even increased noncompliance. Although there was evidence that suggested positively toned distraction/suggestions increase committed compliance (Feldman & Klein, 2003; Blandon & Volling, 2008), the literature did not provide evidence regarding the effects of using “adaptive/low power strategies” with negative affect. In this case, children may be sensing that their mother was trying to “trick” them into something far less interesting and enjoyable given mother’s negative affect. This negatively toned effort to keep children away from the prohibited toys may have further increased the attractiveness of prohibited activity. The frustration that is caused by being “cheated” may have led children to not comply.

High power strategies were detrimental for compliance only when delivered with a negative tone. Furthermore, positively toned commands even increased compliance. There may be two explanations that may have contributed to this outcome. It is possible that positively toned commands that are delivered to engage children in a potentially unpleasant activity, may lead them to perceive the request as “warm” and therefore increases their willingness to comply (Volling, Blandon, & Gorvine, 2006; Goin & Wahler, 2001). Alternatively, high-power assertive strategies reflect the prevalence or relative dominance of high-obedience oriented parent-child relationship among Turkish families (Kagitcibasi, 1996), and child responses are more positive than would be expected on the basis of Western models toward such strategies.

Although criticism/threats were expected to be detrimental irrespective of the affective tone, only negatively toned criticism/threats increased noncompliance. Previous studies (Kochanska & Aksan, 1995; Kochanska, Aksan, & Nichols, 2003; Gross et al., 2003) revealed

that maternal criticism/threats were associated with lower levels of compliance and internalization although these studies were silent about the affective component of criticism/threats. Yet, the present finding makes sense since criticism/threats tend to be negatively delivered in general. Additionally, when mothers delivered criticism/threats disguised in a positive tone, children may have been unable to identify them as critical and threatening remarks.

This set of findings indicates that the affective tone of mothers matters more than the verbal strategies in terms of fostering compliance. More specifically, usage of negative affect is more predictive of compliance than positive affect. Overall, the strategies delivered with negative affect decreased compliance and increased noncompliance. However delivering the same strategies –except for commands/directives- with positive affect did not significantly change the likelihood of either compliance or noncompliance. In the present sample, negative affect played a more important role in terms of predictive value than positive affect, which is inconsistent with evidence based on Western samples (Maccoby & Martin, 1983; Lay et al. 1989; Kochanska et al., 1995). The possible underlying reasons for this inconsistency will be discussed in a separate section below.

Contrary to expectations, children received functional ignore responses more frequently than praise after compliance. They also received commands and criticism more frequently than ignore after noncompliance. Although Western literature emphasizes the need to praise compliance and ignore noncompliance in order to secure long-term compliant behaviors, the obedience-oriented parenting style Turkey (Kagitcibasi, 2007), may lead parents to perceive compliance as a natural response that need not be rewarded but consider noncompliance that calls for disapproving stance.

Taking the role of affect into consideration, children were more likely to receive praise and less likely to be ignored when they delivered positively toned compliance. However, when children complied neutrally they were more likely to be ignored instead of being praised. These findings may constitute further support for Turkish mothers' expectations regarding compliance. Mothers only rewarded positively delivered, perhaps, "wholehearted" compliance but not neutrally delivered "ordinary" compliance. As expected, positively and neutrally delivered noncompliance decreased the likelihood of receiving commands/criticism when compared to negatively delivered noncompliance.

Those findings suggest that the affective tone is a powerful source of influence in mother-child interaction in Turkish sample. While negatively delivered parental strategies were met with less adaptive child behaviors, positive attitude displayed by children in both compliance and noncompliance situations tended to be acknowledged and rewarded by mothers. Those sequential patterns in mother-child exchanges ignored individual differences, however. In order to understand the implications of those patterns for broader measures of individual differences in functioning external validity analyses were conducted. To that end, rates of those verbal and affective channel behaviors that influenced subsequent partner behaviors were computed for each mother-child dyad in the sample.

External validity analyses were grouped into three progressively stronger tests for the relevance of affective and verbal channel behaviors on children's functioning. In the first group, rates of affective and verbal channel events were examined in relation to independently coded rates of committed compliance, situational compliance and noncompliance in the "Don't" or prohibited toy context. This constitutes the 'weakest' external validity test in that majority of sequential events encompassed transactions involving child's conduct toward the prohibited toys, though not exclusively. In the second group, rates of affective and verbal

channel events were examined in relation to committed, situational compliance, and noncompliance in the “Do” context and children’s conduct toward the off-limit toys in the resistance to temptation paradigm, or internalization of the don’t rule. In the third group, rates of affective and verbal channel events were examined in relation to maternal and teacher ratings of symptoms and social competency.

In the first group of external validity analyses involving children’s conduct in the Don’t context showed that ignoring negatively toned compliance and criticizing negatively toned noncompliance predicted lower levels of committed compliance and higher levels of situational compliance and noncompliance. This finding is reasonable in the light of literature that argues praising compliance and ignoring noncompliance is crucial for fostering adaptive child outcomes like increased committed compliance and decreased noncompliance (Querido, Bearss, & Eyberg, 2002).

In the second group of external validity analysis involving children’s internalization of the prohibition and compliance, noncompliance in the “do” context, findings were consistent with those found for the “Don’t” context. Negatively delivered maternal strategies predicted higher situational compliance and noncompliance in the “Do” context. An additional finding was that positively toned criticism also increased situational compliance. This is reasonable based on literature that highlights the effectiveness of high power assertive strategies eliciting short-term compliance (Hoffman, 1970). Similar to the findings in the “Don’t” context, negatively toned maternal strategies predicted lower levels of internalization of the prohibition. Additionally, positively toned distractions also predicted lower internalization contrary to expectations. When mothers used plenty of distractions as they tried to implement the prohibition, their main message regarding why those toys should not be touched may have been vague for children (Grusec & Goodnow, 1994). Therefore, children may not have

actually understood the prohibition or the virtue of complying with it so they broke the rule when they were no longer under surveillance.

The predictive value of negative affective tone was also evident among chains that started with child compliance and noncompliance. Ignoring negatively toned compliance predicted lower levels of situational compliance and internalization whereas ignoring positively toned compliance predicted only lower levels of internalization. Criticizing negatively toned compliance also predicted reduced levels of situational compliance and internalization. This is quite reasonable based on literature that implies praising compliance fosters it whereas criticism, especially criticizing compliance, undermines it (Parpal & Maccoby, 1985).

Delivering commands or criticism following negatively toned noncompliance predicted lower levels of situational compliance and internalization. Giving explanations or using distractions following either positively and negatively toned noncompliance predicted lower levels of internalization. On the other hand, ignoring was observed to be the only method for increasing internalization following positively toned noncompliance. These results make sense in the light of literature that argues ignoring noncompliance eventually reduces it whereas responding to noncompliance, either with criticism or explanation, constitutes attention to children's behavior and therefore reinforces it (Herschell, Calzada, Eyberg, & Mcneil, 2002).

The predictive value of interaction sequences for mother and teacher reports of externalizing symptoms and teacher reports of social competency was limited. A clear, overall pattern did not emerge in these associations, other than the observation that less favorable ratings of the child by the mother or the teacher were associated with interaction sequences that included either mother's or child's negative affective tone in general. It is

possible that interaction sequences captured moment-to-moment dynamics of the mother-child relationship that school teachers are not acquainted with and that such dynamics do not necessarily transfer to school setting (Forehand, Breiner, McMahon, & Davies, 1981).

In general, the correlations did not indicate which interaction sequences increased as rates of committed compliance increased. Instead the findings revealed the sequences that were more characteristic of children with high rates of situational compliance and noncompliance. Hence, the coded interaction sequences failed to predict adaptive outcomes (committed compliance and internalization), rather they predicted maladaptive outcomes (situational compliance and noncompliance).

It is possible that relevance of sequential exchange patterns for maladaptive rather than adaptive outcomes may be an artifact of the analytic method itself. Specifically, it is possible that children who display higher rates of committed compliance may not be requiring mothers to deliver demands as much as children who display higher rates of situational compliance and noncompliance. Hence, instances of compliance observed in the sequential analytic framework over-represent situational rather than committed forms of compliance. This would suggest that transactions as captured by coding of conversational turns fail to inform non-conflictual aspects of the mother-child relationship. Committed compliance with maternal demands which is a strong predictor of internalized conduct (Cebioglu, 2010; Kochanska & Aksan 1995; Kochanska et al., 2005) likely reflects the positive history of the relationship between mother and child, maternal responsiveness, and/or attachment quality (Maccoby, 1983; Kochanska, Aksan, Koenig, 1995; Grusec, Goodnow, & Kuczyinski, 2000, Kochanska et al., 2005).

Cultural Differences

Although the study was not designed to test or understand cultural differences, it is possible the findings also point to cultural differences. For example, the findings showed that compliance was often ignored and praised only when it was delivered with positive affective tone. Furthermore, noncompliance often received either repeated commands/directives or explanations rather than ignore. Those findings are consistent with the idea that although Turkey is in transition from collectivism to individualism (Goregenli, 1997), obedience continues to be highly valued (Kagıtcıbası, 1973; 2007; Yagmurlu, Cıtlak, Dost, & Leyendecker, 2009). Both lack of praise for neutral or negatively delivered compliance may indicate a stance where compliance is ‘taken for granted’ and lack of tolerance for noncompliance, responding to it with either repeated directives or explanations, may jointly indicate greater valuation of compliance over autonomy.

Using the same Turkish sample, an earlier study had demonstrated that the affective ecology which supported children’s committed compliance with maternal requests was distinct compared to findings from US samples (Cebioglu, 2010). Specifically, that study had shown that it was lower levels of children’s negative affect rather than higher levels of children’s positive affect that was primarily associated with elevations in children’s committed compliance and low levels of noncompliance. The findings of the current study indicated that mother’s negative affect played a predominant role in negotiating the outcomes of moment-to-moment transactions, in terms of child compliance and noncompliance. Those two findings from independent coding systems suggest that predictive power of negative affect may be higher in relatively collectivistic settings than positive affective states.

Keller’s component model of parenting (Keller et al., 2004) may provide an explanation for negative affect being more predictive of the outcomes within discipline transactions between Turkish mothers and children. This model divides parenting styles into

two categories; proximal and distal parenting style. Proximal parenting favors body contact and body stimulation of children as strategies that encourages interdependency of children whereas distal parenting favors object stimulation (stimulating child with the use of an object) and face-to-face contact to encourage development of autonomy (Greenfield & Keller, 2003; Keller et al., 2004). Accordingly, one can assume that parents from collectivistic cultures tend to display proximal parenting style as opposed to parents from individualistic cultures who tend to display distal parenting style. Furthermore, Keller argues that mothers who endorse proximal parenting style respond to children's negative affect and hold back from displaying frequent positive affect whereas mothers who endorse distal parenting style seek keeping the affective climate rather neutral and respond more to children's positive affect. The findings from the current study and those of Cebioglu (2010) are consistent with this model in that affective ecology of mother-child relationship around discipline exchanges may be distinct for Western and Turkish families.

Implications and Future Research

The results of the present thesis may also have implications for parent training programs. Parent training programs designed for the Western context (McMahon, Forehand, & Griest, 1981; Querido, Bearss, & Eyberg, 2002; Webster-Stratton et al, 1997) invest in increasing in child's positive affect through responsive play techniques to prepare the ground for a less adversarial and more cooperative stance before teaching mothers to issue more effective commands and instructions. It is possible investment in child's positive affect may be inadequate or inappropriate in preparing the ground for a similar effect among Turkish families. The findings here may have implications for culturally sensitive modifications to intervention models targeting children with behavior problems. It could be argued that the focus of intervention needs to shift from efforts to foster adaptive outcomes to efforts for

decreasing the maladaptive outcomes and eventually “making room” for adaptive outcomes. Intervention models will need to emphasize how mothers use affective tone in attempting to elicit compliance or shift initial non-compliance to a more cooperative stance.

Future research needs to focus on the factors and the processes that foster children’s committed compliance. It may be particularly important to be mindful of parental values and expectations in the construction of intervention programs that target children at risk for behavior problems. For example while low SES families may preserve their obedience oriented attitudes toward their children like the majority of families that raised children 40 years ago (Kagitcibasi, 1973), families from high SES may be trying to adjust their parenting skills in line with the rising value of autonomy both in Turkey and other countries. Although high SES mothers may seek guidance in terms of parenting strategies today with the concern of raising an autonomous yet related child, their past experience with their own mothers may be hindering them from adopting the recommended parenting attitudes effectively. For example, mothers who rely on Western teachings of parenting may have learned to ignore noncompliance but not praising compliance since they consider compliance as an essential task.

The present study has several limitations. First of all, most of the participants were from high SES and most mothers were highly educated. Since families from different socioeconomic levels may adopt differential parenting goals in Turkey, a sufficient number of participants from low SES should have been included. Also, some event sequences were relatively rare which may be due to the “normativeness” of the majority of participants. Unbalanced frequency of observations may have caused some patterns to turn out to be insignificant while they are and vice versa. The lack of information regarding the history of mother-child relationship is another limitation for making sense of the observed sequences for

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each family. However, at preschool age children are more open to teacher influence rather than mother since they spend the majority of daytime at school. This study did not attempt to include teacher influence by observational measures but relied solely on their opinions through self-report measures. Lastly, the coding system was based on Western research which may have caused some culture-specific meanings of some sequences to be overlooked.

Appendices

Appendix A

Frequencies of coded events for five chains

Table 17
Distribution of Child Compliance and Noncompliance preceded by Maternal Affect and Verbal Exchange Combination in Chain 1.

Lag 0 Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Verbal/Behavioral Exchange		
		Comply	Noncomply	Other
Distraction/Suggestion	Positive	223	63	110
	Negative	23	20	21
	Neutral	674	321	324
Commands/Directives	Positive	214	47	68
	Negative	241	199	119
	Neutral	1218	270	553
Other	Positive	60	31	2593
	Negative	51	71	258
	Neutral	258	149	7970
	N	2962	1171	12016

Note. The numbers in cells represent the frequency of each observation.

Table 18

Distribution of Child Compliance and Noncompliance preceded by Maternal Affect and Verbal Exchange Combination in Chain 2.

Lag 0 Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Verbal/Behavioral Exchange		
		Comply	Noncomply	Other
Explanation/Reasoning	Positive	12	3	15
	Negative	13	15	12
	Neutral	99	36	96
Commands/Directives	Positive	214	47	68
	Negative	241	199	119
	Neutral	1218	270	553
Other	Positive	271	91	2688
	Negative	61	76	267
	Neutral	833	434	8198
	N	2962	1171	12016

Note. The numbers in cells represent the frequency of each observation.

Table 19

Distribution of Child Compliance and Noncompliance preceded by Maternal Affect and Verbal Exchange Combination in Chain 3.

Lag 0 Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Verbal/Behavioral Exchange		
		Comply	Noncomply	Other
Explanation/Reasoning	Positive	12	3	15
	Negative	13	15	12
	Neutral	99	36	96
Criticism/Threat	Positive	20	19	22
	Negative	30	48	49
	Neutral	67	41	75
Other	Positive	465	119	2734
	Negative	272	227	337
	Neutral	1984	663	8676
	N	2962	1171	12016

Note. The numbers in cells represent the frequency of each observation.

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Table 20

Distribution of Maternal Verbal Exchange preceded by Child Affect and Verbal Exchange Combination in Chain 4.

Lag 0 Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Verbal/Behavioral Exchange			
		Approval/Praise	Functional Ignore	Criticism	Other
Comply	Positive	74	210	10	283
	Negative	3	110	14	20
	Neutral	109	1254	27	796
	N	186	1574	51	1099

Note. The numbers in cells represent the frequency of each observation.

Table 21

Distribution of Maternal Verbal Exchange preceded by Child Affect and Verbal Exchange Combination in Chain 5.

Lag 0 Verbal/Behavioral Exchange	Lag 0 Affect	Lag 1 Verbal/Behavioral Exchange			
		Ignore	Command/Criticism	Explanation/Distraction	Other
Noncomply	Positive	0	44	46	45
	Negative	2	230	34	27
	Neutral	73	236	214	225
	N	75	510		297

Note. The numbers in cells represent the frequency of each observation.

Appendix B
The Coding Sheet

ID:

Context:

Page:

Time	Speaker	Note	Code	RTT	Affect
	M				
	C				
	M				
	C				
	M				
	C				
	M				
	C				
	M				
	C				
	M				
	C				
	M				
	C				

Appendix C

Coding Examples for Communicative Chains

Chain 1

M: Bak burada ne var? İstersen bunlarla oynayalım? (Distractions/Suggestions)

C: Hayır ben diğerleriyle oynayacağım. (Noncompliance)

M: Hayır onlara dokunmuyoruz. (Commands/Directives)

C: Peki. (Compliance)

Chain 2

M: Oradakilere dokunmayacağız çünkü onlar başka birine ait, izin istemeden dokunamayız. (Explanation/Reasoning)

C: Banane ben dokunacağım. (Noncompliance)

M: Olmaz, gel bu tarafa. (Commands/Directives)

C: Hayır. (Noncompliance)

Chain 3

M: Bazen insanlar oyuncaklarını paylaşmak istemezler. O zaman biz de o oyuncaklarla oynayamayız. (Explanation/Reasoning)

C: Ama ben ellemek istiyorum. (Noncompliance)

M: Sen beni çok üzüyorsun ama. (Criticism/Threat)

C: -yasak oyuncaklardan uzaklaşır- (Compliance)

Chain 4

Option 1

C: -annenin isteği üzerine yasak oyuncaklardan uzaklaşır- (Compliance)

M: Aferin benim akıllı kızıma. (Approval/Praise)

Option 2

C: -annenin isteği üzerine yasak oyuncaklardan uzaklaşır- (Compliance)

M: Peki sen bu yapbozu gördün mü? (Distractions/Suggestions as Functional Ignore)

Option 3

C: -annenin isteđi üzerine yasak oyuncaklardan uzaklaşır- (Compliance)

M: Sakın bir daha oraya yaklaşayım deme. (Criticism/Threat)

Chain 5

Option 1

C: -yasak oyuncaklarla oynamaya başlar- (Noncompliance)

M: -kendi işini yapmaya devam eder- (Ignore)

Option 2

C: -yasak oyuncaklarla oynamaya başlar- (Noncompliance)

M: Ne yapıyorsun? Çabuk buraya gel. (Commands/Criticism)

Option 3

C: -yasak oyuncaklarla oynamaya başlar- (Noncompliance)

M: Benim için bir resim yapmak ister misin? Eve gidince buzdolabına asarız.
(Explanations/Distractions)

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