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1995

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Recommended Citation
Cioni '95, Jennifer L., "Socialization of Emotion: The Role of Parental Discipline in Infant Anger Expression" (1995). *Honors Projects.* Paper 97.
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Running head: ROLE OF SOCIALIZATION IN ANGER EXPRESSION

Socialization of Emotion: The Role of Parental Discipline in Infant Anger Expression

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Abstract

The current study sought to examine how infant negative affect changes with age and the factors that underlie that change (i.e., infant locomotor onset and emotion socialization). Participants included white, middle-class mothers ages 18 to 44, as well as their first-born infants at 6 months (all prelocomotor) and 8 months (half remained prelocomotor) of age. Videos of 20 mother-infant dyads taken at home were coded for maternal affect, infant affect, and prohibition scenes. Four, 2-way analyses of variance indicated that (1) the number of prohibitions increased with age for locomotor infants only, (2) the degree to which infant negative affect is concentrated around prohibitions increases with age specifically for locomotor infants and (3) a positive correlation between infant negative affect and the number of prohibitions, suggesting that locomotion may play an organizing role in the socialization of emotion.

Socialization of Emotion:
The Role of Parental Discipline in Infant Anger Expression

Emotion research dates back to Darwin's (1872) work, The Expression of the Emotions in Man and Animals, which suggested universal patterns and a functional significance of emotional expression. After receiving reports from observers around the world, such as missionaries to the aborigines, Darwin (1872) concluded that all chief emotional expressions were the same among people throughout the world. More importantly, Darwin (1872) noted that expressions, once voluntary, had become hereditary as a result of their functional significance for the survival of species. According to Darwin (1872), "the movements of expression in the face and body, whatever their origin may have been, are in themselves of much importance for our welfare. They serve as the first means of communication between the mother and her infant" (p. 364). Thus, in addition to their universal nature, facial expressions and autonomic responses prepare the individual to act on the environment and serve as communicative signals.

In accordance with Darwin's (1872) view of an

"intimate relation which exists between almost all the emotions and their outward manifestations" (p. 365), Izard (1987) proposed a nativist view that emotions are biologically prewired and serve unique adaptive functions in development. According to Izard (1987), "there is an innate concordance of expression and feeling, and the neural processes subserving expression contribute to the activation and regulation of feeling states" (p. 516). For infants especially, expression and the feeling state are one in the same which serves an essential role in social communication.

Saarni (1993), however, proposed an alternative view. For Saarni (1993), "emotions are the medium and message of socialization" (p. 435). In contrast to Izard's (1987) emphasis on biological factors to emotional development, Saarni (1993) emphasized the development of emotion through the interaction between infant and caregiver. Emotions were learned through direct instruction, contingency learning, identification with role models, expectancy communication and imitation. In addition Frijda (as cited in Campos, Kermoian and Zumbahlen, 1992) indicated that the

thwarting of goals elicits anger. Discipline is a social practice that combines the thwarting of goals with emotion communication. Discipline routinely creates the opportunity for direct instruction, contingency learning, imitation and other socialization practices. Thus this is an important area for emotional development research, particularly because negative affect has received little attention compared to other emotions such as triumph at achievement or pride (Murphy, 1983). In fact, "anger and related aggression, discussed by clinicians in the 1930's, have rarely been integrated into a comprehensive view of emotional development" (Murphy, 1983, p. 8). This lack of negative affect research prevents a balanced look at emotional development from birth through the early years (Murphy, 1983).

Only a few studies have systematically examined negative affect. In 1978 Ainsworth et al. discovered that separation distress develops around 8 months of age when infants develop significant attachments to caregivers. Sroufe (1979) went further in describing anger as becoming prominent at 7 months of age. More recently researchers have

begun to correct this apparent imbalance. Continuing in 1992, Campos, Kermoian and Zumbahlen examined how new experiences resulting from infant locomotor onset would change the emotional climate of the family. Presuming that parents begin to teach their infants right from wrong when infants begin to crawl around 7 months of age, Campos et al. (1992) brought 8-month-olds and their parents into the lab. Significantly more parents of locomotor infants reported an increase in anger expression by themselves ($x^2=9.1$, $p<.05$) and their infants ($x^2=10.4$, $p<.05$) than did parents of prelocomotors (Campos et al., 1992, pp. 29 and 32). In accordance with socialization theory the results suggested that prohibitions may elicit infant anger as infants imitate parents' negative affect or experience frustration as goals are thwarted.

Due to the use of parental report and an artificial environment by Campos et al. (1992), Zumbahlen (1994) conducted home observations with parents of 8-month-olds to capture prohibitions and emotion as they occur naturally. Zumbahlen (1994) discovered that parents prohibit locomotor infants

more often than same-aged prelocomotor infants, particularly with a prohibitive tone. A link between locomotor onset, prohibitions and infant negative affect was beginning to be established.

Yet, because Zumbahlen (1994) used only 8-month-olds, the picture remained incomplete. Negative affect was changing around 6 to 8 months of age (Ainsworth et al., 1978; Sroufe, 1979). Some studies suggested that locomotor onset may play a role in that change (Campos et al., 1992). Thus the current study examined both 6- and 8-month-old infants in their natural home environments to investigate whether infant negative affect changes with age, particularly as a function of infant locomotor onset and discipline practices (i.e., number of prohibitions and maternal vocal tone).

Method

Participants

Participants included 20 mother-infant dyads who participated in a study currently in progress. Mothers were white, middle-class and ranged in ages from 18 to 44. Half of the infants were female

while the remaining half were male. All infants were first-born and at 6 months all prelocomotor. By 8 months 10 of the infants had achieved 5 weeks experience with forward prone progression; 10 remained prelocomotor. From this point on, prelocomotor will be used to refer to infants who were prelocomotor at both 6 and 8 months of age. Locomotor will refer to infants who were prelocomotor at 6 months and had experience with forward prone progression at 8 months.

Materials

Videotaped observations were viewed on a VHS VCR and monitor. Codes were recorded on sheets designed for that specific purpose. Appendix A contains examples of an infant affect coding sheet, a maternal affect coding sheet and a prohibition coding sheet. (See Appendix A, Figures 1, 2 and 3)

Procedure

Thirty-minute videos were recorded in the home of each dyad and were taken of the infant during floor play, with each mother instructed to go about her regular routine. Each thirty-minute observation was coded for infant and maternal affect as well as the onset and offset times of

prohibition scenes. For coding purposes negative affect was defined as any expression of sadness, fear, anger or frustration. Interest was considered a neutral expression.

Infant affect coding. Three coders, including the author, coded infant affect. Each thirty-minute observation was coded in five-second epochs, keeping coders blind to the focus of the proposed study. Coders were randomly assigned observations. Coders blindly overlapped on five observations in order to check reliability. It should be noted that the author served merely as a reliability check until the last few weeks of coding. Interrater reliability ranged from r=.73 to r=.84, with an average of .79, $p < .001$. Cohen's Kappas ranged from .488 to .643, with an average of .564 (considered to be a fair score).

Coders scored both positive and negative affect as another measure to keep them (except for the author) blind to the this study's purpose. However, only negative and neutral scores were used in the analyses. Therefore, only the negative affect scoring system will be described in detail here. Codes incorporated vocal, bodily and facial

channels. An overall code was given for each five-second epoch. A score of 0 was given for a neutral state, indicating the absence of affect. Negative affect codes ranged from 1 to 3, with 3 being the most severe. A negative score of 3 would be given for a scream lasting 3 or more seconds, possibly accompanied by arching of the back. Figure 1 of Appendix B provides a more detailed description of this coding system. (See Appendix B, Figure 1)

Duration was included in the coding system to reflect Izard's (1987) theory that expression equals the infant's feeling state. A longer duration would reflect a stronger emotion. However, if an expression is intense, such as arching, a code of 3 was given regardless of duration.

Maternal affect coding. Four coders were assigned to code maternal vocal tone. Coders overlapped blindly on observations in order to check reliability. Interrater reliability ranged from r=.49 to r=.62, with an average of .56, $p<.01$ Kappa's ranged from .44 to .48 (considered to be a fair score).

Again, separate codes for positive and negative affect were given for each five-second epoch within the prohibition scenes of each observation. Because negative and neutral codes were used for analyses, the negative affect coding system only will be described here. Negative codes ranged from 1 to 3, with 3 being the highest. The absence of affect-- a neutral expression --was coded as 0. Figure 2 of Appendix B provides a more detailed description of the maternal affect coding system. (See Appendix B, Figure 2) For example, a negative code of 2 indicated the use of a sharp tone. Duration was not included in this coding system to reflect Fernald's (1993) finding that, especially for prohibitive vocalizations, a decrease in duration indicates an increase in intensity of negativity. Thus, an intensely negative vocalization made by a mother would be short in duration.

Prohibition coding. Finally, prohibition scenes were coded by two independent coders. Onset and offset times of each scene were marked in seconds. The beginning of a prohibition was defined by a maternal attempt to change the

infant's behavior by a change in facial expression, a physical gesture or a verbal comment. The parent beginning a new activity or ceasing to change the environment constituted the end of a prohibition. Interrater reliability for number of actual prohibitions agreed upon was r=.98, p<.001.

Results

Overall, the frequency of infant negative affect did not increase with age or locomotor status. The total number of each infant affect score per 30-minute observation constituted the dependent variable. A two-way analysis of variance did not show any main effects for locomotor status or age or an interaction between the two as a function of the proportion of epochs that contained an expression of infant negative affect, $F(1, 18) = .15$, $p > .35$. Table 1 provides a more detailed explanation of these results. (See Table 1.)

Only the mothers of locomotor infants showed a substantial increase in number of prohibitions from 6 to 8 months of age. A two-way analysis of variance showed main effects for status and age as well as an interaction between status and age as a

function of the number of prohibitions, $F(1, 18) = 6.1$, $p < .05$. Locomotors received more prohibitions at 6 months as well. Figure 1 provides a description of this finding. (See Figure 1.)

The likelihood that a mother would use negative affect during prohibitions did not change with infant age and locomotor status. For this analysis the dependent variable was composed of the number of times each maternal affect score was given during the prohibitions of every 30-minute observation. A two-way analysis of variance did not show a main effect for age or status or an interaction between the two as a function of the proportion of prohibition epochs with maternal negative affect, $F(1, 8) = .9$, $p > .19$. Table 2 clarifies this result. (See Table 2)

The negative affect expressed by locomotor infants was more likely to be concentrated around prohibitions than that expressed by prelocomotor infants. For the purposes of this investigation, the dependent variable was comprised of the number of each infant affect score given during and 20 seconds following each prohibition during every 30-minute observation. A two-way analysis of

variance showed a main effect for status but not a main effect for age or an interaction between the two as a function of the proportion of infant negative affect during and 20 seconds following prohibitions, $F(1, 12) = 10.05$, $p < .05$. Table 3 provides a detailed description of this finding. (See Table 3.) Finally, the number of prohibitions was found to positively correlate with infant negative affect, $r = .5548$, $p < .05$. However maternal negative affect and infant negative affect did not correlate at 6 or 8 months of age, $r = -.2353$, p .10; $r = .1367$, p .10.

Discussion

The frequency of negative affect overall did not change with age or locomotor status. This is perhaps due to the manner in which negative affect was coded. Negative affect, as defined by this study, included a breadth of negative emotions from general fussiness due to fatigue or boredom to sadness and anger which may result from the relinquishing of goals or the thwarting of goals, respectively.

Yet, if one focuses attention on infant

negative affect surrounding situations involving goals (i.e., prohibitions), an interesting picture arises. Indeed, negative affect during and immediately following prohibitions was positively correlated with the number of prohibitions. Since the number of prohibitions increased with age and locomotor infants, it is possible that locomotor onset may play a role in changing the expression of infant negative affect. As prohibitions increase with age, the number of opportunities for a parent to thwart an infant's goals increases, suggesting an increase in infant sadness and anger.

However, the current study was unable to isolate specific negative emotions due to the nature of the home observations. In order to implement coding systems specific to different emotions, close-up, clear videos of an infant's face during each thirty-minute observation would have been required. This was not possible for in a natural home environment infants move about or may not always be in an ideal location for videotaping. Thus, it is recommended that future studies make an attempt to isolate specific negative emotions as a means to better understand this alteration in the expression of emotion.

In addition to locomotor onset, infant temperament may play a role in changing emotional expression. Negative affect was more likely to be tied to prohibitions for locomotors than prelocomotors at both 6 and 8 months of age. Emde, Henderson and Jones (as cited in Zumbahlen, 1994) discovered that infants who crawl before 7 months of age tend to be more easily upset by limitations than those who crawl late. If the locomotors in this study were higher on distress to limitations, then they may generally have been more likely to show negative affect in response to prohibitions. These findings suggest that infant temperament may work in combination with locomotor onset to create changes in negative affect. Although temperament data were available for the subjects, time did not allow for the analysis of the role of temperament. It is recommended that future studies endeavor to examine main effects and interactions between temperament, locomotor status, age and infant negative affect.

To this point the infant's contributions to the development of emotion expression (i.e., locomotor onset and temperament) have been

addressed. Nevertheless, in order to complete the picture, the mother's role must be assessed. Analyses showed that the likelihood a mother would use negative affect during a prohibition did not increase. Yet, the number of prohibitions increased, augmenting the opportunity for her to express negative affect. As a result the emotional climate of the home potentially altered, because more maternal negative affect would have been expressed during a thirty-minute observation that included a higher number of prohibitions. So, even though mothers did not become more negative, they were negative more often.

This would then lead one to suspect that an infant would respond negatively to maternal negative affect expressed during prohibitions. Under the socialization model infants would be imitating, for example, this maternal negative emotion which would be increasing in frequency as the number of prohibitions increased. Nevertheless, maternal negative affect did not correlate with infant negative affect. This could be due to a number of factors though. First, it is very difficult to get coders to hear a negative

tone in a positive statement or to not hear a negative tone in a negative statement. Thus, the actual coding of maternal negative affect may have been biased. Perhaps future studies could test for this by exposing coders to pre-scored maternal vocalizations and then comparing the scores given by the coders with the established scores. Secondly, the sample was small. Mothers generally did not differ significantly on the level of negativity they displayed during prohibitions. Also, mothers were generally the same age and of the same ethnic and economic backgrounds. Whenever variability is decreased, the likelihood of obtaining significance is decreased as well, because the chances that the groups would be systematically different are dramatically reduced. Therefore, although the homogeneity of the sample served a control purpose it also decreased the chance of obtaining significant results. It is recommended that future studies incorporate more subjects and different ethnic groups as well as different ages and SES backgrounds.

Other concerns regarding the results of the study include the following. The correlational

nature of the analyses as well as the small sample size do not allow for the determination of direct causation and limits generalization. Therefore, the results may only be interpreted as trends which may guide future research. Also, coding by the author presents some potential problems. Ideally the observations would have been coded by individuals blind to the focus of the study. However, unexpected setbacks did not allow for this. In order to complete the collection of data on schedule the author had to code some of the subjects in addition to the reliability checks. But, as soon as it became apparent that this would be necessary, the author had a third party construct lists of subjects so that the author would be blind as to which subjects would serve as reliability checks from that point on. This, in addition to the relatively high reliability established before the author began to code more intensively, warrants reasonable confidence that bias was controlled. Nonetheless, this study may only serve as a foundation for additional infant anger research.

The results of studies which incorporate the

suggested changes could potentially benefit the clinical community. Mothers who are prone to using negative emotion when prohibiting their infants could be identified and taught more positive prohibition strategies. As a result, the emotional climate of the home would become more positive for the infant. Because anger expression is developing at a time when attachments are being formed (Ainsworth et. al, 1978), attachment outcomes regarding infant and maternal negative affect could be altered, implying the importance and need for future studies.

References

Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). Patterns of attachment: A psychological study of the strange situation. Hillsdale, NJ: Erlbaum.

Campos, J., Kermoian, R., & Zumbahlen, M. (1992). Socioemotional transformations in the family system following infant crawling onset. In N. Eisenberg & R.A. Fabes (Eds.) Emotion and its regulation in early development, New directions for child development,55, (pp. 25-40). San Francisco: Jossey-Bass.

Darwin, C. (1872/1955). The expression of emotions in man and animals. New York, NY: The Philosophical Library.

Fernald, A. (March 1993). Experimental studies of infant's responsiveness to affective vocalizations. Paper presented at the meeting of the Society for Research in Child Development, New Orleans, LA.

Izard, C.E., & Malatesta, C.Z. (1987). Perspectives of emotional development I: Differential emotions theory of early emotional development. In J.D. Osofsky (Ed.), Handbook of

infant development, (pp. 495-554). New York, NY: Wiley Interscience.

Murphy, L.B. (1983). Issues in the development of emotion in infancy. In R. Plutchik & H. Kellerman (Eds.), Emotion theory, research and experience, (pp. 1-33). New York, NY: Academic Press.

Saarni, C. (1993). Socialization of emotion. In M. Lewis & J.M. Havailand (Eds.), Emotions, (pp. 435-446). New York, NY: Guilford Press.

Sroufe, L.A. (1979). Socioemotional development. In J. Osofsky (Ed.), Handbook of infant development, (pp. 462-516). New York, NY: Wiley Interscience.

Zumbahlen, M. (1994). Observed differences in mother-infant interaction as a function of infant locomotor status. Poster presented at the 9th International Conference on Infant Studies, Paris, France, June 2-6.

Author Note

I would like to thank Alisha Crawley and Jeff (of U. of I.) for coding prohibitions. Alisha, aren't you glad I can tell you about my project now?

I would like to thank Terry, Matt, Lori and Amber for coding maternal affect. Sorry I couldn't let you see my poster at the conference but bias is an evil in research we like to avoid if possible!

I would like to thank Kathy and Josh for coding probably the most difficult portion, infant affect. Who would have predicted that it could take up to an hour and a half to code one observation? You guys are great. This wouldn't have been completed without you.

I would like to acknowledge my committee members, Jim, Johnna and Dr. Sikora, who have put up with last minute papers, gave me advice and put up with me in my moments of stress!

Finally, I would like to acknowledge Marcia Zumbahlen. Without her assistance and guidance there would be no study. Words can not express my gratitude. You have truly inspired me!

Table 1

Average Proportion of Epochs with Infant Negative Affect as a Function of Age and Locomotor Status

	Age	
Locomotor Status at 8 months	6 months	8 months
Prelocomotor	8.1%	8.0%
Locomotor	7.0%	4.3%

Table 2

Average Proportion of Prohibition Epochs with Maternal Negative Affect as a Function of Infant Age and Locomotor Status

	Age	
Locomotor Status at 8 months	6 months	8 months
Prelocomotor	4.8%	37.6%
Locomotor	28.3%	35.6%

Table 3

Average Proportion of Negative Affect Tied to Prohibition Epochs as a Function of Infant Age and Locomotor Status

	Age	
Locomotor Status at 8 months	6 months	8 months
Prelocomotor	3.7%	48.0%
Locomotor	28.4%	77.4%

Figure Captions

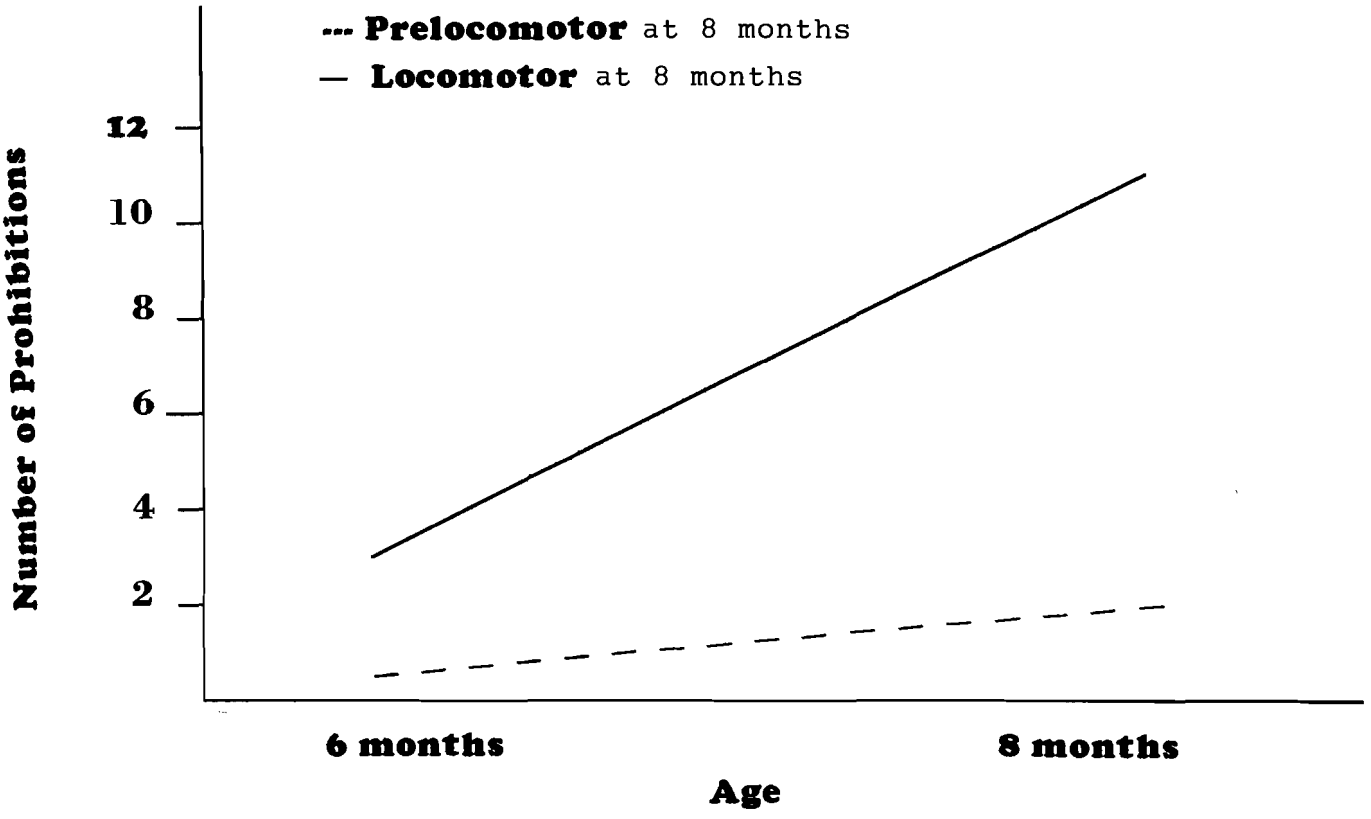
Figure 1. Average number of prohibitions as a function of infant age and locomotor status at 8 months. Figure A1. Example of an infant affect coding sheet.

Figure A2. Example of a maternal affect coding sheet.

Figure A3. Example of a prohibition coding sheet.

Figure B1. Description of infant negative affect codes and examples of their criteria.

Figure B2. Description of maternal negative affect codes and examples of their criteria.


--- Prelocomotor at 8 months
— Locomotor at 8 months
Number of Prohibitions
12
10
8
6
4
2
6 months
8 months
Age

Coding Sheet

								Subject #:		Coder:_____	
	POSITIVE		NEUTRAL		NEGATIVE			Test date:		Coding Date: _____	
START TIME	AFFECT		AFFECT		AFFECT		NOTES:				
0:00											
0:05											
0:10											
0:15											
0:20											
0:25											
0:30											
0:35											
0:40											
0:45											
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1:45											
1:50											
1:55											
2:00											
2:05											
2:10											
2:15											
2:20											

Revised Coding Sheet

	Coder:_____			Coding Date: _____			Subject #:	6 8 mos	
START TIME	POS TONE	NEG TONE	START TIME	POS TONE	NEG TONE	START TIME	POS TONE	NEG TONE	NOTES:
0:00			2:25			4:55			
0:05			2:30			5:00			
0:10			2:35			5:05			
0:15			2:40			5:10			
0:20			2:45			5:15			
0:25			2:50			5:20			
0:30			2:55			5:25			
0:35			3:00			5:30			
0:40			3:05			5:35			
0:45			3:10			5:40			
0:50			3:15			5:45			
0:55			3:20			5:50			
1:00			3:25			5:55			
1:05			3:30			6:00			
1:10			3:35			6:05			
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1:25			3:50			6:20			
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1:50			4:15			6:45			
1:55			4:20			6:50			
2:00			4:25			6:55			
2:05			4:30			7:00			
2:10			4:35			7:05			
2:15			4:40			7:10			
2:20			4:45			7:15			
			4:50			7:20			

Appendix A

Compliance Coding Sheet

Date_____
Coder_____
Subject #_____6 mos 8mos
Page_____of_____

Start time:_____ Marker:_____

_____

End time:_____ Marker:_____

_____

Start time:_____ Marker:_____

_____

End time:_____ Marker:_____

_____

Start time:_____ Marker:_____

_____

End time:_____ Marker:_____

_____

Start time:_____ Marker:_____

_____

End time:_____ Marker:_____

_____

Appendix B
Infant Negative Affect Coding Scale

0- Neutral. The infant did not express. The infant may vocalize, however, the vocalizations are monotone. The infant may manipulate toys, but the manipulations are exploratory. The infant may crawl or roll, but the behavior is goal oriented. The infant may squirm its face, but it is not clearly emotional. The infant is just existing.

1- The infant displays a slight expression of negative affect through 1 or 2 channels. For example, the infant may briefly smile, coo, or bounce*. Also, the infant may briefly frown and whimper, or briefly frown and squirm. A brief squirm is 1-2 sec long. A brief whimper is positive but quiet and 1-2 sec long. A brief frown is a slight downward turn of the corners of the mouth and 1-2 sec long.

2- The infant displays a moderate expression of negative affect through 1 or more channels. A moderate expression consists of a long duration slight expression. For example, the infant may whimper for 3-5 sec. The infant may frown for 3-5 sec. The infant may squirm* at the beginning of a 5 sec epoch, and then again at the end of the epoch. There may be any combination of these behaviors at this level. An infant may also be scored at this level if he or she shows slight negative affect through all 3 channels.

3- The infant displays an extreme expression of negative affect through 1 or more channels. For example, the infant may scream or cry, torso arch*, or square mouth and furrow brows. Any combination of these behaviors would be scored at this level.

* Note: Thrashing arms or legs and shaking head are also expressions of negative bodily affect.

Appendix B

Maternal Negative Affect Coding Scale
Maternal Affect Scale

0- Monotone speech. The type that is typically used in adult-directed conversation.

1- Slightly low pitch and contour slowly rises or falls.

2- Brief (1-2 sec) vocalization with a sharp decline in pitch contour or a flat pitch contour but with a louder voice than a "1-rating."

3- Lots of "2-ratings" or the mother uses a loud vocalization (louder than a "2-rating"--the mother is yelling or close to yelling/screaming) with a sharp decline in pitch contour or with a flat pitch contour.