

Parents' Touch of Their Preterm Infants and its Relationship to Their State of Mind Regarding Touch

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Full Text: Headnote ABSTRACT: This study examined differences between mothers and fathers in how they touched their preterm infants and the relationships of parental touch to infant gender and to the parents' state of mind regarding touch. There were no differences in the ways that parents touched boys versus girls or in their use of nurturing and stimulating touch. However, fathers touched their infants more frequently than mothers and in more complex ways. A father's experience with touch in his family of origin was related to the ways he touched his infant although evidence of these intergenerational effects was not found for mothers. For all parents, their personal satisfaction with the touch they experienced in their current lives was associated with the ways they touched their infants. However, results suggest that mothers and fathers have different psychological strategies for grappling with their own perceived tactile deprivation or abuse from touch. INTRODUCTION A number of recent studies suggest that the touch infants receive from their parents has significant implications for the infant's brain development and ultimate mental health (Carvell & Simons, 1996; Huntley, 1997; Keller, Weintraub & Miyashita, 1996; Nudo, Milliken, Jenkins & Merzenich, 1996; Weiss, Wilson, Hertenstein, & Campos, 2000; Weiss, Wilson, Seed, & Paul, 2001). This research provides important support to more clinically focused work that has indicated the importance of parent-infant touch in establishing the underlying foundation of a child's psychological well-being (Ainsworth, Blehar, Waters & Wall, 1978; Dosamontes-Beudry, 1997; Hofer, 1993; Hunter & Struve, 1998; Raphael-Leff, 1994; Walsh, 1991; Ziajka, 1981). Parental touch may be especially important to preterm infants. Lickliter (2000) has proposed that infants born preterm are deprived of typical patterns of tactile and vestibular stimulation which are normally available during prenatal development. In addition, they are often prevented from having normal tactile interactions with their parents as neonates because of medical complications that necessitate hospitalization and isolation to protect them from overstimulation. Lastly, they endure many invasive interventions that often involve painful touch. As a result of such atypical experiences with touch during the perinatal and neonatal periods, the nature of touch provided by parents once the infant is discharged assumes critical import. Yet little is known about the ways parents touch their preterm infants as part of caregiving during these early months. Most of what we do know stems from research with full term healthy infants or from animal research. Four major patterns of touch appear to have implications for the infant's psychological development. These include: (a) the degree to which touch is stimulating to the infant's nervous system, (b) the complexity of touch (i.e., its diversity, variety and scope), (c) the nurturing quality of touch, and (d) the frequency with which touch occurs (Anokhin, Mileusnic, Shanakina, & Rose, 1991; Francis, Diorio, Liu & Meaney, 1999; Greenspan & Bolanowski, 1996; Katz, Zvi, Levy, Berger & Edelman, 1995; Kempermann, Kuhn & Gage, 1997; Schanberg, Kuhn, Field, & Bartolome, 1990; Streri, Pownall & Kingerlee, 1993; Suomi, 1997; Weiss, et al. 2000; Weiss, et al. 2001). Mothers' and Fathers' Differential Patterns of Touch How the gender of the parent may influence these patterns of touch remains a mystery. Previous research with newborns indicates that, in the main, mothers use more touch than fathers (Harrison & Woods, 1991; Ludington-Hoe, et al. 1992; Tomlinson, Rothenberg & Carver, 1991), and that fathers engage in relatively little touch of the infant, even within rural, non industrialized regions (Tronick, Morelli & Ivey, 1992). However, studies do suggest that preterm infants may draw fathers into more involvement than is found with healthy infants (Pleck, 1997; Pruett, 1998). One study found that fathers and mothers did not differ in the amount which they held the child in a preterm nursery (Levy-Shiff, Sharir & Mogilner, 1989). Similarly, Eidelman and colleagues (1994) found no differences in the frequency of parent touch with newborns but noted that

mothers used more nurturing touch while fathers used more stimulating touch. A study of touch with school aged children also found that fathers used more vigorous, stimulating touch than mothers, particularly in playful types of interaction (Weiss, 1990).

Touching of Boys Versus Girls

The gender of the child also may influence the patterns of touch a parent uses. A number of early studies found that mothers hold and touch boys more than girls during the first year of life (Landerholm & Scriven, 1981; Lewis, 1972; Moss & Robson, 1968; Parke, O'Leary & West, 1972; Rosenthal, 1983). Some research suggests that boys may be touched in more diverse or varied ways (Stepakoff, 1999) and with more stimulating touch than girls (Moss, 1967). However, one classic study found that parents touched female infants over a greater extent of their bodies than male babies (Jourard & Rubin, 1968). There also have been conflicting reports regarding parents' use of nurturing or affectionate touch. Two studies note that girls appear to receive more affectionate, expressive touch while much of boys' touch is instrumental (Kuzela, et al. 1990; Shields & Sparling, 1993). But Leiderman and colleagues (1973) found the opposite—that boys received more affectionate maternal contact. Toney (1983) noted that fathers touched their male infants in ways that suggested they felt closer to them than to female infants, using more finger tip and whole hand touching. In a review of social touch, Major (1990) reported that same sex touch is more frequent than opposite sex touch in infant-adult relationships. Hunter and Struve (1998) also support this stance, indicating that society's restrictions regarding touch may encourage less touch of the opposite sex child. Clearly, this literature does not provide any definitive answers regarding potential differences in the touch that boys and girls receive. In addition, many of the studies occurred during an era when the nature of parenting for men and women was different than it is today.

The Parent's State of Mind Regarding Touch

Another important quandary is the extent to which a parent's touch of the infant is influenced by his/her own experience with touch and the attitudes resulting from that experience. There is clearly evidence that our experience of being cared for as a child affects how we parent our own children (Miller, Kramer, Warren, Wickramaratne & Weissman, 1997). Research consistently indicates the existence of intergenerational transmission of parent-child relationship styles (Brook, Whiteman & Zhang, 2000), including important features of caregiving such as rejection (Whitbreck, Hoyt, Simons, Ganger, Elder, Lorenz & Huck, 1992). Animal research suggests that the quality of maternal caregiving may actually program a similar orientation to maternal behavior patterns in the offspring through a psychobiological mechanism for intergenerational transmission of parenting styles and responsiveness (Champagne & Meaney, 2001; Fleming, Day & Kraemer, 1999). It is particularly noteworthy that a mother's state of mind regarding the touch she received from her parents has been identified as a major predictor of her own child's security of attachment (Weiss, et al. 2000). Other research has also shown that the receipt of nurturing, positive touch from parents is perceived by adolescents as a key determinant of whether their overall experience of being cared for as a child was positive (Pearce, Martin & Wood, 1995). These investigators found that the touch a father provides seems particularly important to daughters' ultimate views about the caregiving they receive. Taken as a whole, such findings suggest that the touch used in caregiving reflects a central feature of our internal representation of the caregiving experience. They also imply that a parent's state of mind regarding touch may well be passed on to the next generation through the touch s/he provides.

PURPOSE OF THE STUDY

The purpose of this study was to better understand the patterns of touch used by parents of preterm infants once they are home from the hospital, and whether gender or the parent's state of mind regarding touch are associated with the ways in which they touch their infants.

Research Questions

1. Do mothers and fathers differ in the patterns of touch they use with their preterm infants?
2. Does the gender of the infant influence parents' use of touch?
3. Is parents' use of touch associated with their state of mind regarding touch, including their attitudes toward touch, their felt security regarding the ways in which they were touched as a child, and their current sense of security with the touch they experience in their ongoing lives?

METHODS

Procedures

Families were recruited from the neonatal intensive care units of three major teaching hospitals in northern California. Parents were part of a larger study to understand factors that might influence the health and development of babies who are small at birth. Once an informed consent was acquired,

the parents were given a demographic questionnaire to complete and the medical chart of the infant was reviewed to identify birth weight, gender and gestational age. When the baby was three months of age, a research assistant (RA) who was a clinical nurse specialist made a home visit to videotape a typical bottle feeding of the infant. Parents alternated in feeding the infant, with parents themselves deciding who would begin the feeding process. The videocamera was set up and turned on as soon as the RA arrived in order to allow time for the family to adjust to its presence. The camera was then left on each parent and infant while the baby was being fed. The videotape of the feeding was analyzed subsequently using a standardized system to measure the parents' use of touch. After the feeding was finished, the parents each completed a questionnaire regarding their experiences with and attitudes toward touching and being touched. Measures Demographics. A demographic questionnaire acquired basic data regarding the parent's age, education, income level and ethnicity. Parental touch. The specific properties used by parents in their touching of infants were measured with the Tactile Interaction Index (Til) (Weiss, 1992). The Til includes both a series of training videotapes differentiating various properties of touch as well as a coding system to analyze these properties within a specified interaction. The coding system was created specifically for microanalysis of videotaped or filmed interaction. It has indices measuring the intensity, location, action and frequency of a touch. The intensity index allows for coding of touch as strong, moderate or light based on the degree of pressure to the skin. Parents received an initial raw score for the number of times they used each type of intensity in their touching and then a percentage score for the degree to which they used each of the three intensities during the feeding situation. The location index specifies 19 different areas of the infant's body that can be touched. Each touch that occurs is coded as to which body area the parent touches. From initial raw scores regarding the number of times each area was touched, two percentage scores were developed. The first score was for touching of body areas with high innervation (i.e., areas that are densely packed with many nerve endings, such as the face, hands or feet). The second score was for the extent of contact with a variety of locations on the infant's body, that is, the percent of the infant's body parts that were actually touched during the interaction. The action index identifies 28 different gestures or movements that can be used in touching (e.g., grab, push, rub, squeeze). From the raw data regarding specific tactile gestures, three percentage scores for type of stimulation can be developed. These scores denote the degree to which a parent used actions that involve (1) cutaneous sensations affecting only the surface of the skin (e.g., contact without movement), (2) proprioceptive stimulation affecting deeper tissue and muscles (e.g., rubbing), or (3) vestibular sensations affecting body alignment or position (eg. lifting). In addition, each parent received a percentage score for the diversity of actions used. This score was based upon the number of actions used over 28 possible actions. The final index identified the frequency of a parent's touching, that is, the actual number of times a parent touched the baby. This was the only score that was not a percentage score. From these Til data, four final scores were used to examine the patterns of parental touch: scores for stimulating touch, complexity of touch, nurturing touch, and frequency of touch. The frequency score came directly from the original index just described, identifying the number of times a parent touched a baby. The score for stimulating touch was computed by summing scores for (a) touching of body areas having high innervation, (b) use of strong intensity, and (c) actions involving proprioceptive sensation. Complexity of touch was operationally defined by summing scores for (a) the extent of body areas touched and (b) the diversity of actions used in touching. The score for nurturing touch was the sum of all actions involving kissing, hugging and caressing the infant. A standardized 5 minute segment of the infant feeding situation was used for analysis of each parent's touch. The initial few minutes of the feeding were not used in order to allow parents to adjust comfortably to their feeding routine. Two subsequent minutes were then coded during active feeding of the baby. Three additional minutes near the end of the feeding were also coded, when a parent was concluding the feeding, burping the baby, and engaging in other interaction with the infant unrelated to the feeding per se. While standardizing the times of the feeding limited some of the variance in overall frequency of touch, it was necessary in light of a number of factors, including the length of some feeds, periods where the baby was

sleeping with no interaction taking place, and the time-intensive nature of the tactile coding process. Yet the natural, spontaneous quality of the feeding was preserved by standardizing what was coded rather than rigidly structuring the feeding situation itself. A trained researcher who had achieved coding reliability of .92 or above for each index analyzed the touch, reviewing the five minute feeding tapes four separate times in order to code each of the indices separately (ie. intensity, action, location and frequency of touch). The content, construct and predictive validity, as well as internal consistency, interrater reliability and test-retest stability of the Til have been established previously (Weiss, 1990; 1992). The parent's state of mind regarding touch. This variable was measured by the Physical Contact Assessment Questionnaire (Weiss, Wilson, Hertenstein & Campos, 2000). This 20 item self report, Likert -type questionnaire has three subscales : 1) 'Attitudes toward Touch', 2) 'Felt security regarding Tactile Experience as a Child', and 3) 'Felt security regarding Current Tactile Experience'. The first subscale measures the degree to which a person values touch and purports comfort with touch as a part of spontaneous interactions in life. The second subscale measures the degree to which the touch received in a person's family of origin is perceived as affectionate versus punitive and whether it met the respondent's needs for affection and comforting as a child. The third subscale measures an individual's satisfaction with the touch they currently receive from significant others in meeting their needs for affection and comforting. The reliability and construct validity of the measure have been established, including its ability to predict the degree of a mother's acceptance or rejection of her own child, her perception of the supportiveness of current relationships, her family's cohesiveness and adaptability, and her satisfaction with family interactions (Weiss, et al. 2000). Data Analysis Descriptive statistics were computed for all variables in the study, including demographics, patterns of touch and the parents' state of mind regarding touch. T-tests were then computed to analyze data for the first two research questions: comparing mothers and fathers on use of all four patterns of touch, and their use of these patterns with boys versus girls. Pearson correlation coefficients were computed to analyze the third research question, correlating all four patterns of touch with scores for parents' attitudes toward touch, their felt security regarding their history of touch as a child, and their felt security with the touch they currently experience as an adult. RESULTS Sample Thirty families of preterm infants participated in the study. The fathers' mean age was 33 years, with a range of 20 to 46 (SD = 6.4). Mothers' mean age was 31 years, ranging from 19 to 44 (SD = 7.2). Forty seven percent of the fathers were Euro-American as were 55% of the mothers. Twenty three percent of fathers and 21% of mothers were African-American. Twenty percent of both parents were Hispanic American and the remainder were Asian or Native American. Both fathers and mothers averaged 13 years of education, ranging from 1 to 19 years of formal schooling. The infants' average gestational age was 33 weeks, ranging from 28 to 36 (SD = 2.9). Their mean birth weight was 1898 grams, ranging from 935 to 3271 grams. Sixty percent of the infants were boys and 40% were girls. Patterns of Parental Touch The means and standard deviations for fathers' and mothers' patterns of touch are shown in Table 1. Fathers touched their infants significantly more than did mothers [$t = 4.05$ (df = 58), $p < .05$]. On average, fathers touched their infants 327 times during the five minute observation period whereas mothers only touched their infants 237 times on average. Fathers also used significantly more complex touch than mothers [$t = 9.40$ (df = 58), $p < .001$], making contact with many locations on the infant's body and using a diverse array of different types of touch (e.g., stroking, lifting, rubbing). There were no differences between fathers and mothers in their use of nurturing touch or stimulating touch.

Table 1
Fathers' and Mothers' Patterns of Touch with their Preterm Infants

	<i>Mothers</i>		<i>Fathers</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Frequency*	237	117	327	266
Complexity**	46	5.5	70	10.5
Stimulation	36	19.3	35	29
Nurturance	9	11.6	10	13.5

*p < .05,

**p < .001.

Note: The frequency scores reflect the number of times (during the 5 minute observation period) a parent touched the infant. The other three scores are percent scores, reflecting the percent of the parents' total touch that used that type of touch with the infant.

Touch of Boys Versus Girls Table 2 includes the separate data for parents' touch of their sons and daughters. There were no significant differences in the ways that parents touched boys versus girls for either mothers or fathers. There was a trend toward fathers touching boys more frequently than girls but the difference did not reach statistical significance [$t = 1.86$ ($df = 28$), $p < .07$]. Parents' State of Mind Regarding Touch There were no differences between mothers and fathers in any of the subscales measuring their state of mind regarding touch. These findings indicated that the attitudes toward touch and experiences with touch were similar for the men and women in this study. Table 3 presents the correlation coefficients between parents' patterns of touch and their 'state of mind' scores. Parents' attitudes toward touch had no significant relationship to the ways in which either mothers or fathers touched their infants. Similarly, a mother's felt security with the touch she received as a child had no relationship to the touch she used with her own infant. However, the father's state of mind regarding the touch he received as a child was significantly related to his touching of the infant. The less secure and more negative fathers felt about their tactile experience in the family of origin, the more frequently they touched their own infants and the more they used complex touch of the infant (ie. different types of touch and contact with many areas of the infant's body).

Table 2
Parents' Patterns of Touch with Boys Versus Girls

	<i>Mothers</i>		<i>Fathers</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Frequency				
Boys	238	129	344	201
Girls	235	107	221	158
Complexity				
Boys	45	11.6	69	25
Girls	48	9.5	70	17
Stimulation				
Boys	31	19.4	37	7.2
Girls	42	18.2	33	7.7
Nurturance				
Boys	7	5.8	10	17.2
Girls	11	7.1	9	5.0

Parents' felt security regarding the touch they experienced with significant others in their current lives was

correlated with both mothers' and fathers' touch of the infant. However, current experience with touch appeared to influence mothers and fathers in distinctly different ways. As shown in Table 3, a mother's sense of security and satisfaction with her current tactile experience was associated with more frequent touching of her infant. On the other hand, the less secure and more dissatisfied fathers felt about their current tactile experience, the more they used nurturing touch with their infants. DISCUSSION Mothers Versus Fathers Touch The findings indicate that mothers and fathers do touch their children differently, with fathers touching more frequently and with greater complexity (variety/diversity/scope) than mothers. These results are very important in that they suggest greater involvement of fathers with their infants through touch than has been shown in previous research. The few studies comparing fathers' and mothers' touch of infants took place more than a decade ago and focused primarily on newborns. The majority of those studies indicated that fathers touched infrequently and less than mothers (e.g., Ludington-Hoe, et al., 1992; Tomlinson, et al, 1991; Tronick, et al., 1992). Perhaps the nature and degree of fathers' touch has changed over that period of time as a result of rapidly changing societal views on the fatherchild relationship. With the exception of certain cultural enclaves, fathers are more involved with their children than ever before (Pleck, 1997). In addition, the fathers in our study were interacting with preterm infants at three months of age. Other research has shown that fathers do appear to become more involved with preterm infants than with healthy infants (Pruett, 1998; Yogman, 1987), perhaps because of their medical vulnerability. Fathers may consciously or unconsciously decide to become a more active part of the infant's life in case the infant dies and later involvement with the child is precluded. Their responsiveness to the child may also be increased simply because of a sense of protectiveness and empathy related to the baby's medical complications and tiny size.

Table 3
Pearson Coefficients for the Relationship of Parents' Patterns of Touch to their State of Mind Regarding Touch

<i>State of Mind</i>	<i>Touch</i>			
	<i>Frequency</i>	<i>Complexity</i>	<i>Stimulation</i>	<i>Nurturance</i>
Mothers				
Attitudes	.34	.17	.04	.20
Past Experience	.07	.03	-.14	-.08
Current Experience	.41*	.02	-.14	.14
Fathers				
Attitudes	.08	.28	.31	.09
Past Experience	-.60**	-.52*	-.32	-.20
Current Experience	.04	.01	-.23	-.49*

*p < .05

**p < .01

It is also probable that fathers touch their infants more when they are three months of age than when they are neonates. Fathers may feel more confident of their ability to handle the infant and provide care by that time. A study by Levy-Shiff and associates (1989) would support this view. They found that, while fathers of hospitalized preterm infants initially touched them less than mothers, this disparity decreased as time went on. Longitudinal studies are needed to better understand how the touch of both fathers and mothers may change as the child develops. The frequent use of touch by fathers may affect the preterm infant in many ways. Both human and animal research provides evidence that frequent physical contact is associated with enhanced alertness, responsiveness and motor development of infants (Scafidi &Field, 1996; Weiss, Wilson &Morrison, in press; Wheeden, Scafidi, Field, et al., 1993), more secure attachments (Anisfeld, Casper, Nozyce &Cunningham, 1990; Waters, Kondo-Ikemura, Posada and Richters, 1990), and more adaptive responses to stress (Francis,

Diorio, Liu & Meaney, 1999; Liu, Diorio, Tannenbaum, et al., 1997; Sapolsky, 1997). However, it is important to note that too much touch may be intrusive to the infant, producing a subjective sense of overstimulation (Ainsworth, et al., 1978; Weinberg & Tronick, 1997). More frequent touch by mothers has been associated with more aggressive and destructive behavior by preterm, low birth weight infants at two years of age (Weiss, et al. 2001). Future studies will need to carefully examine the relationship of fathers' touch to such outcomes for preterm infants in order to understand its benefits and potential drawbacks. Ours is the first study to examine and describe differences in the complexity of mothers' and fathers' touch. One other study has noted that fathers do not show as much preference for a particular style of touching as mothers who seem to use a more consistent set of gestures in their touch (Eidelman, et al., 1994). The substantial scope and breadth in the fathers' touch that we observed may have significant implications for the development of preterm infants. For instance, when used by mothers, more complex touch has been associated with improved social adaptation for preterm low birth weight infants (Weiss, et al., 2001). Fathers' contact with a greater variety or number of areas on the child's body has also been linked to a more accurate body image for school aged children (Weiss, 1990). Such findings suggest that fathers could play an important role in their child's development through the complex touch they provide. It is important to mention that we found no differences between mothers and fathers in their use of nurturing touch or stimulating touch. These results are fascinating in light of assumptions that have been held for decades regarding greater nurturant behavior toward children by mothers and the use of more stimulating interactions with their children by fathers. For the small sample of families in our study, fathers used as much nurturing touch as mothers; in fact, their mean was slightly higher. Similarly, the percentage of touch that was stimulating to the infant's nervous system was almost identical for mothers and fathers. Touching of Boys Versus Girls Another important lack of difference between the two groups of parents was related to their use of touch with boys versus girls. As noted in the beginning of this paper, a mix of findings has emerged over the years regarding gender differences in touching behavior but with no consistent outcomes. Some of the more recent research regarding differences in parental caregiving suggests that fathers are more involved in caregiving of boys than girls (NICHD, 2000). There has also been some speculation that same sex touch may be more frequent in parent-child relationships as a result of societal prohibitions (Hunter & Struve, 1998; Major, 1990). But we did not find evidence to support this behavioral pattern among parents. Our findings are aligned with a meta-analysis of 172 studies of more general parental caregiving practices that concluded there was "a virtual absence" of gender differences in how mothers and fathers treated their sons and daughters (Lytton & Romney, 1991). Parental State of Mind Regarding Touch Our data indicate that a parent's stated attitudes about touch had no relationship to their touching of the infants. The subscale that measured this component of their state of mind tapped an essentially intellectual or cognitive view regarding their comfort with and receptivity to touch. In direct contrast, the two subscales assessing the parents' sense of emotional security and satisfaction with the actual touch they have experienced with attachment figures and significant others turned out to be very important. Our results show a definite relationship between parents' state of mind regarding their own personal experience with touch and the ways in which they touch their infant. This relationship was most salient for fathers. A father's internalized memories and feelings about the touch he received as a child seem to be important influences on how he touches his own infant. The less secure and more negative fathers felt about the touch they received, the more frequently they touched their infant and the greater was the complexity of their touch. Similarly, the less secure and satisfied fathers were with the touch in their current lives as adults, the more likely they were to use nurturing touch with their infants. These findings are extremely interesting and can be interpreted in a number of ways. Fathers may be compensating for their own unhappiness with the touch they received (both in their family of origin and in their current lives) by giving to the child experiences of which they felt deprived. This interpretation does not assume a father's insight regarding his attempts to compensate for his own lack of gratification as a child. He may be projecting onto the infant some unconscious emotional sense of his own unmet needs. Alternatively, fathers may be attempting to fulfill their own needs for physical

contact by touching the infant in ways that are engaging them as fully as possible in tactile interaction (i.e., by using a greater amount of touch, making contact with many areas on the child's body, and using many different types of touch). These kinds of touch may gratify the father, but with minimal sensitivity to the infant's own unique needs for touch. In direct contrast to our findings for fathers, the less secure and satisfied mothers felt with the touch in their current lives as adults, the less likely they were to touch their infants. This finding suggests that mothers' lack of gratification or satisfaction with the touch in their lives inhibits their touching of their own infant. It may be difficult for mothers to give something to the infant which they don't feel is actualized in their own lives. In support of this perspective, Main (1990) found that a mother's aversion to physical contact with her child was related to the mother's perceived rejection of her own bids for contact as a child. For the mothers in our study, that sense of rejection seemed to be more linked to the touch in their current attachment relationships than to the touch in their family of origin. It is unclear why a mother's state of mind regarding her history of touch as a child was unrelated to her touching of the infant while, for fathers, both past and current experiences with touch were associated with how they touched their infant. The felt security with the touch received as a child was predictive of the security and satisfaction they felt with current touch in their lives for both mothers ($r = .41, p < .04$) and fathers ($r = .45, p < .04$). But mothers did not appear to be allowing their past experiences to influence how they touched the infants. Rather, it was the degree to which mothers had achieved more fulfilling physical contact in their current relationships that seemed the critical factor in how they touched their own child. Smith (1998) has noted that if people have been deprived of touch, they may need to mourn their deprivation and learn to integrate the associated feelings from these experiences into their own current relationships. Our findings would suggest that, although fathers and mothers may be behaving in uniquely different ways in response to their state of mind about tactile deprivation or physical abuse, the touching of their infants may indeed be triggering associations to past memories and current unhappiness regarding their tactile interactions. Helping parents to become more conscious of how their own experiences may affect their touching of the infant can increase the likelihood that their infants will be touched in ways that respond to the infants' needs rather than to the parents' needs or unresolved feelings. More research is needed with a larger number of families to examine the nature of mothers' and fathers' touch of preterm infants, factors that may influence these patterns of touch, and their effects on mental health outcomes for the infants. But our findings illuminate the fact that mothers and fathers may have uniquely different psychological strategies for grappling with issues related to their own experiences with touch. These strategies, in turn, appear to have different effects upon the ways in which they touch their infant. We must take care to consider the distinct needs brought by fathers versus mothers during the perinatal period and the early months of the child's life.

Approaches that are effective for mothers may not be useful in working with fathers. Regardless, our findings point to a real need for early intervention with parents to help them understand the potential effects of their own experiences on how they touch their infant. In this way, we can better facilitate patterns of touch that enhance the infant's mental health.

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