

# Significance of Touch for Perceptions of Parenting and Psychological Adjustment among Adolescents

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## ABSTRACT

**Objective:** This pilot study set out to investigate whether a relationship exists between differential quality and quantity of physical contact experience and perceptions of parenting, psychological adjustment, and suicidal behavior among adolescents. **Method:** A self-report questionnaire assessed individuals' perceptions of how frequently they experienced pleasant (positive) and unpleasant (negative) touch from family and friends. Together with the Achenbach Youth Self-Report and the Parental Bonding Instrument, this questionnaire was administered to 142 male and 129 female students aged between 13 and 15 years (mean = 13.54, SD = 0.56) attending a randomly chosen metropolitan state high school and a coeducational private school. **Results:** The major findings indicated that differential quality and quantity of physical contact experience was related to perceptions of parenting, psychological adjustment, and suicidal behavior, although a gender difference was observed. **Conclusions:** The findings suggest that physical contact experiences may reflect different parenting styles and may be a vulnerability factor for a range of difficulties among adolescents. *J. Am. Acad. Child Adolesc. Psychiatry*, 1995, 34, 2:160-167. **Key Words:** adolescence, touch, suicide, vulnerability.

For many years physical contact between two living organisms has been considered a domain of behavior that is fundamental to healthy physiological, psychological, social, and emotional development. Harlow (1958) clearly demonstrated the importance of physical contact in his study of infant rhesus monkeys. Montagu (1972) presented in great detail arguments and evidence concerning the importance of physical contact with the mother in the healthy physical and behavioral development of infants of many species, including humans. Cochrane (1990) suggested that if the research with animals has any relevance to humans, its clear implication is that physical contact in early life is of fundamen-

tal importance to physical growth, resistance to stress, anxiety level, exploratory behavior, learning ability, and social and sexual adjustment.

A number of writers assert that physical contact is the earliest and most basic form of communication (e.g., Major et al., 1990; Montagu, 1972; Morris, 1971). For example, Morris (1971) writes that "The use of words like 'contact' and 'touch' to cover such activities as writing, vocalisation, and visual signalling is, when considered objectively, strange and rather revealing. It is as if we are automatically accepting that bodily contact is the most basic form of communication" (p. 13).

In addition, Montagu (1972) argues that while physical contact is not itself an emotion, its sensory experience stimulates those physiological and psychological processes which in combination are called "emotion." This implies that physical contact is experienced in both the physical and the affective domains, which, according to Montagu, is evident in the use of words related to physical contact to describe such phenomena as being emotionally moved (e.g., being "touched" by beauty).

Taken together, the implication of these ideas with respect to physical contact is that this medium of

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behavior is of great importance in the healthy development of the individual. The question that arises is whether differential quality and quantity of physical contact experiences could possibly have a differential impact on psychological and emotional adjustment.

If one accepts that physical contact is of critical importance to the healthy development of the individual, and that it is the basic form of communication between two living organisms, then it can be argued that physical contact is a powerful device for either promoting the healthy development of the organism or damaging it. It is not sufficient to simply accept the positive value of all physical contact in healthy development; one must qualify this through an analysis of the qualitative aspects of physical contact and their consequences (Major et al., 1990).

While the small body of literature in this area describes in great detail the positive impact of physical contact between two living organisms, there is little comment on the qualitative nature of the physical contact. Cochrane (1990), however, suggests that positive, or "good," physical contact has one common factor on which its goodness is ultimately dependent: acceptance. He asserts that crucial to the goodness of physical contact is the experience of being accepted. He further suggests that good physical contact (that is, contact conveying the fundamental message of acceptance) is essential to the establishment and maintenance of an individual's self-esteem. Conversely, negative or bad physical contact (that is, physical contact that is experienced as unpleasant physically and/or psychologically and that fails to convey a message of acceptance) may be postulated to have a detrimental impact on an individual's well-being. Indeed, Cochrane (1990) suggests that physical contact experience may be a major determinant of the individual's ability to cope with stress and that unsatisfactory or negative physical contact experience can predispose an individual to a wide range of stress-related psychiatric disorders, particularly depression. Cochrane demonstrated this in adults when he found a strong relationship between negative physical contact experience and high incidence and severity of depression. He also stated that negative physical contact experience predated the onset of depression in an overwhelming majority of cases surveyed in his study. Furthermore, Kazdin et al. (1985) found that physically abused psychiatric inpatient children evinced higher levels of depression and hopelessness,

as well as lower self-esteem, than nonabused psychiatric inpatient children.

Other factors that are reported to be associated with negative or unsatisfactory physical contact experience include psychosomatic disorders and antisocial behaviors. For example, Montagu (1972) states that psychosomatic disorders tend to develop in individuals who have lacked the experience of close physical contact with their mother, and Kazdin et al. (1985) highlight the connection between antisocial behaviors (including aggression and delinquency) and a history of physical abuse among children.

In summary, this pilot study set out to investigate further the relationship between physical contact experience and psychological health and well-being in a community sample of so-called "normal" adolescents. Adolescents were chosen for study because of the lack of published research in this area for this population and in view of the critical nature of this period in an individual's life with respect to identity formation and the development of skills in interpersonal behavior. A clear distinction was made between positive and negative physical contact experience to investigate the implications of each for psychological health and adjustment. Specifically, this study sought to investigate the possible relationship between these two qualitatively different kinds of physical contact experience and depression, delinquency, aggression, and somatization. Furthermore, it was postulated that physical contact experience would be associated with perceptions of parental care and overprotection. Moreover, as part of a continuing interest of the research team in vulnerability factors associated with suicidal behavior among adolescents, the study set out to investigate the possible relationships between physical contact experience and suicidal ideation and deliberate self-harm.

## METHOD

### Subjects

The sample under study consisted of 142 male and 129 female students aged between 13 and 15 years (mean = 13.54, SD = 0.56) attending a randomly chosen metropolitan state high school and a coeducational private school. Both schools were located in the southern half of the state of South Australia (total population 1.5 million). Students in each school came from middle-class families and were almost exclusively of Caucasian background. No consistent statistically significant differences between the schools with regard to the variables under study were observed, although a few isolated differences ( $p < .05$ ,  $>.01$ ) were noted.

### Instruments

Physical contact experience was assessed by using a self-report questionnaire designed for the purposes of the present study. The questionnaire asked subjects to tick a box that corresponded to the frequency with which their family or friends used touch to communicate with them in a pleasant way. Examples of pleasant touch communication provided for the subjects included hugging, and patting on the arm or back. Subjects also were asked to tick a box that corresponded with the frequency with which their family or friends used touch to communicate with them in an unpleasant way. Examples provided for the subjects of unpleasant touch communication included being hit, punched, or slapped. Both scales reflected an interval level of measurement and measured frequency of touch communication ranging from 5 or more times daily, to 1 to 6 times per week, to 1 to 11 times per year, to never.

Depression, delinquency, aggression, and somatization were measured by using the Achenbach Youth Self-Report (Achenbach and Edelbrock, 1987). This behavior checklist requires respondents to indicate how often they have engaged in each of 112 behaviors in the previous 6 months on a 3-point scale from "never/not true," to "somewhat or sometimes true," to "very true or often true." A number of subscales have been developed through factor analysis of the items in this checklist, four of which are the Depression, Delinquency, Aggression, and Somatization subscales used in this study. The manual reports satisfactory internal consistency, test-retest reliability, and concurrent and criterion validity for each of these scales (Achenbach and Edelbrock, 1987).

Suicidal ideation and deliberate self-harm were measured by using Youth Self-Report items 18 ([In the last 6 months] "I deliberately try to hurt or kill myself") and 91 ([In the last 6 months] "I think about killing myself"). While these questions do not create a broad picture of the spectrum of suicidal thinking and behavior, they have both been used in numerous studies and provide responses that are both reliable and valid (e.g., Joffe et al., 1988; Ritter, 1990).

Parental care and overprotection were measured by using the Parental Bonding Instrument (PBI) (Parker et al., 1979). The PBI is a 25-item self-report instrument assessing perceptions of parental attitudes and behaviors. The PBI requires responses on a 4-point Likert-type rating scale, from "very like" to "very unlike." The scale is completed separately for mothers and fathers and contains two factor-analytically derived subscales: a "Care" subscale (12 items) and an "Overprotection" subscale (13 items). Each is reported to have adequate internal consistency ( $\alpha_{\text{care}} = .89$ ,  $\alpha_{\text{overprot}} = .69$ ), test-retest reliability ( $r_{\text{care}} = .76$ ,  $r_{\text{overprot}} = .63$ ), and concurrent validity (Parker et al., 1979).

### Procedure

Two weeks before data collection, a letter was sent home to parents in a weekly school newsletter explaining the study and seeking their assent to having their children participate in the survey. To assist parents in making this decision, copies of the questionnaire were made available for inspection at each school's office. There were no objections by parents to their children's participation in the study.

All ninth-grade students present on the day of data collection were given written information about, and a verbal explanation of, the study, and the questionnaires were distributed for completion during one normal class period. Subjects were assured of the confidentiality of their responses and were asked not to write their names on any part of the booklet. Subjects also were asked to

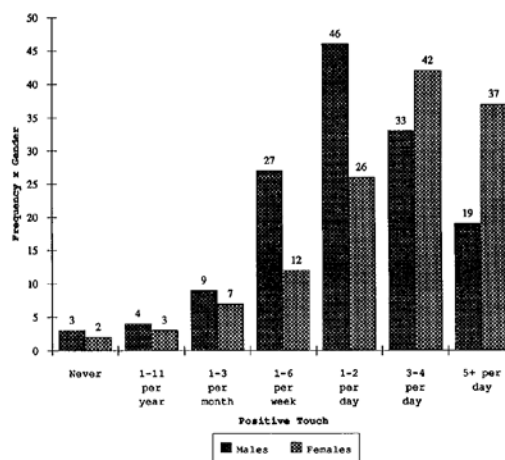


Fig. 1 Frequency of positive touch experiences.

complete all questions as well as they could and were assured that there were no right or wrong answers.

Upon completion of the questionnaire, subjects were thanked for their participation in the study, and the completed questionnaires were placed into piles and collected immediately by one of the authors (K.W.).

### RESULTS

In performing statistical analyses of the data, an  $\alpha$  level of .01 was chosen for statistical significance in view of the multiple inferential statistical analyses and the heightened probability of a type I error. Nevertheless, effects with significance at the .05 level were deemed worthy of comment given that this was a pilot study, and we also wished to avoid making type II errors.

Figures 1 and 2 show the frequency of positive and negative touch experience for the sample population and the gender subpopulations. The response distributions for both positive and negative touch experience are skewed, with a majority of the subjects indicating daily experiences of positive touch, and negative touch one to six times per week or less.

Figures 1 and 2 also raise the possibility of differences in the frequency with which the male and female adolescents report positive and negative touch experiences. To test this, the data for positive and negative touch were recoded to form a 7-point scale, ranging from 1 (never) to 7 (five or more times daily). The detailed range of incidence of positive and negative

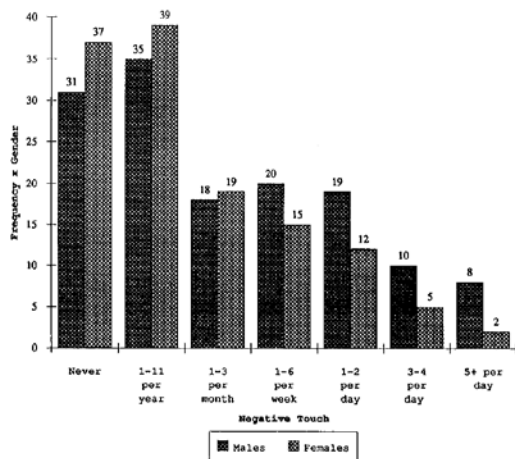


Fig. 2 Frequency of negative touch experiences.

touch experience on the original scale ensured that the recoded scale reflected an underlying range, and hence, an interval level of measurement. The degree of skew for both scales was not thought to be sufficient to violate significantly the assumption of normality for parametric statistical techniques given the small proportion of subjects falling in the extended tails of the distributions, and this recoded scale was used in all subsequent data analyses.

Independent samples *t* tests demonstrated a statistically significant difference between males (mean = 5.01) and females (mean = 5.57) in perceived frequency of positive touch experiences ( $t = -3.3$ ,  $df = 268$ ,  $p < .01$ ) and between males (mean = 3.16) and females (mean = 2.61) in perceived frequency of negative touch experiences ( $t = 2.69$ ,  $df = 268$ ,  $p < .01$ ). In view of these differences, it appeared necessary to examine males and females separately in subsequent analyses.

Pearson correlation analyses demonstrated that the two touch scales were not intercorrelated for the sample population ( $r = -.12$ ,  $p > .01$ ) and the male ( $r = -.07$ ,  $p > .01$ ) and female ( $r = -.10$ ,  $p > .01$ ) subpopulations.

With regard to the four factor-analytically derived variables under study from the Youth Self-Report (depression, delinquency, aggression, and somatization), we chose to use the raw scores for each variable as their distributions did not significantly violate the assumption of normality (in contrast to the standardized *T* scores). This prevented us from conducting

analyses for the whole sample as the items contributing to these factor scores differ for each gender.

Pearson correlation analyses of the relationship between perceived frequency of positive touch experiences and depression, delinquency, aggression, and somatization gave rise to statistically significant coefficients for females only ( $r$  ranging from  $-.20$ ,  $p < .05$ , to  $-.29$  to  $-.34$ ,  $p < .01$ ), while for perceived frequency of negative touch experiences Pearson correlation coefficients were statistically significant for both males ( $r$  ranging from  $.24$  to  $.36$ ,  $p < .01$ ) and females ( $r$  ranging from  $.29$  to  $.35$ ,  $p < .01$ ). A series of multiple regression analyses were performed to examine the extent to which perceived frequency of positive and negative touch experience offered significant prediction of depression, delinquency, aggression, and somatization scores for the male and female subpopulations; the results of these analyses are presented in Table 1. A similar pattern of results emerged, with positive and negative touch experience offering statistically significant, unique prediction of each of these variables for the female subpopulation, while only negative touch experience offered statistically significant prediction of depression, delinquency, aggression, and somatization scores for the male subpopulation.

Pearson correlation analyses for positive touch experience demonstrated a strong positive relationship between perceived frequency of positive touch and father and mother care scores for the sample population and gender subpopulations ( $r$  ranging from  $.31$  to  $.41$ ,  $p < .01$ ), with a moderate negative correlation also evident between positive touch experience and father overprotection for the sample population ( $r = -.18$ ,  $p < .01$ ) and female subpopulation ( $r = -.24$ ,  $p < .01$ ). On the other hand, the perceived frequency of negative touch experience scores were found to correlate negatively with father care for the sample and gender subpopulations ( $r$  ranging from  $-.29$  to  $-.35$ ,  $p < .01$ ), and positively with father overprotection scores for the sample population ( $r = .19$ ,  $p < .01$ ) and the male subpopulation ( $r = .28$ ,  $p < .001$ ). Furthermore, negative touch correlated negatively with mother care for the sample population ( $r = -.23$ ,  $p < .01$ ) and the male subpopulation ( $r = -.30$ ,  $p < .01$ ), and positively with mother overprotection for the sample population and the gender subpopulations ( $r$  ranging from  $.21$  to  $.30$ , all  $p < .01$ ).

**TABLE 1**  
Multiple Regression Analyses of the Significance of Prediction of the Youth Self-Report Subscales  
by Positive and Negative Touch Experience

Variable	Positive Touch ( $\beta$ )	Negative Touch ( $\beta$ )	$R^2$	F Value
<b>Males</b>				
Depression	.04	.27***	.08	5.41**
Delinquency	-.06	.33***	.11	8.41***
Aggression	.10	.36***	.14	10.42***
Somatization	.09	.24**	.07	4.70**
<b>Females</b>				
Depression	-.26**	.31***	.18	13.97***
Delinquency	-.31***	.26**	.18	13.61***
Aggression	-.16*	.33***	.15	10.63***
Somatization	-.26**	.30***	.17	12.78***

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table 2 presents the findings of a series of multiple regression analyses examining the extent to which perceived frequency of positive and negative touch experience offered statistically significant prediction of father and mother care and overprotection scores for the sample population and the gender subpopulations. The results for the sample population follow the same pattern as for the Pearson correlation analyses, with both positive and negative touch experience offering statistically significant prediction of father care, father overprotection, and mother care scores, and only negative touch offering statistically significant prediction of

mother overprotection scores. A pattern of findings similar to those for the sample population was evident for the male subpopulation, although only negative touch offered statistically significant prediction of father overprotection scores. However, the findings were more varied for the female subpopulation, with both positive and negative touch offering statistically significant prediction of father care scores, positive touch only offering statistically significant prediction of father overprotection and mother care scores, and negative touch experience just failing to offer statistically significant prediction of mother overprotection scores.

**TABLE 2**  
Multiple Regression Analyses of the Significance of Prediction of Parental Care and Overprotection  
by Positive and Negative Touch Experience

Variable	Positive Touch ( $\beta$ )	Negative Touch ( $\beta$ )	$R^2$	F Value
<b>Sample</b>				
Father care	.32***	-.28***	.21	33.65***
Father overprotection	-.16**	.17**	.06	8.61***
Mother care	.34***	-.19***	.17	25.98***
Mother overprotection	-.08	.25***	.07	9.86***
<b>Males</b>				
Father care	.29***	-.32***	.20	17.05***
Father overprotection	-.13	.28***	.10	7.54***
Mother care	.39***	-.27***	.24	20.97***
Mother overprotection	-.04	.30***	.09	6.90***
<b>Females</b>				
Father care	.38***	-.25**	.22	17.76***
Father overprotection	-.23**	.11	.07	4.72**
Mother care	.31***	-.13	.12	8.09***
Mother overprotection	-.12	.21*	.06	4.01*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

With regard to the suicidal behaviors under study, 28% ( $n = 75$ ) of the sample reported having thought about killing themselves in the previous 6 months, with 9% ( $n = 23$ ) reporting that they had had such thoughts "often." Furthermore, 18% ( $n = 48$ ) reported having deliberately tried to hurt or kill themselves in the previous 6 months, with 6% ( $n = 16$ ) reporting that they had done this "often." Although a greater proportion of females than males reported suicidal ideation, a  $\chi^2$  analysis indicated no statistically significant gender effect ( $\chi^2 = 1.39$ ,  $df = 2$ ,  $p > .1$ ). However, approximately twice as many females in the sample reported deliberate self-harm, and a  $\chi^2$  analysis indicated that the gender association just failed to achieve the strict criterion for statistical significance used in this study ( $\chi^2 = 8.11$ ,  $df = 2$ ,  $p = .02$ ).

A series of analyses of the variation in positive and negative touch experience scores across the three suicidal behaviors subgroups (never, sometimes, often) were performed for suicidal ideation and deliberate self-harm. For suicidal ideation, most analyses approached or achieved the stringent 1% criterion for statistical significance ( $p < .01$ ) chosen for this study, with only the male subpopulation evincing no statistically significant variation in positive touch experience scores across the three suicide ideation groups.

For deliberate self-harm, small numbers of subjects in the "harmer" cells for the gender subpopulations forced the investigators to collapse the two groupings into one, which resulted in two subgroups: those who had and those who had not engaged in deliberate self-harm in the previous 6 months. Most analyses approached or achieved the 1% criterion for statistical significance ( $p < .01$ ), the only exception again being the positive touch experience scores for the male subpopulation.

## DISCUSSION

It is noteworthy that a majority of subjects reported daily experiences of positive touch, whereas negative touch was reported by the majority of subjects as occurring one to six times per week or less. Furthermore, there were statistically significant differences between the gender subpopulations in their perceptions of the frequency with which they had experienced positive and negative physical contact, with females

reporting more positive and less negative touch experiences than males. This gender effect is of some interest, and it might be explained in any number of ways, for instance, as evidence of differences in cultural/societal constraints upon the acceptability of acknowledging different forms of touch experiences for males and females.

As expected, perceived frequency of negative touch was positively related to depression, delinquency, aggression, and somatization among both males and females. That is, where negative touch experiences were perceived to have occurred more frequently, the individuals were generally more depressed, delinquent, and aggressive, and they reported more somatic complaints. However, perceived frequency of positive touch experience was negatively related to these variables among the females only. Hence, where positive touch experiences were perceived to have occurred more frequently, the females were generally less depressed, delinquent, and aggressive, and fewer somatic complaints were reported. Furthermore, whereas the perceived frequency of both positive and negative touch experience offered statistically significant independent prediction of depression, delinquency, aggression, and somatization among the females, only frequency of negative touch experience offered statistically significant prediction of these variables among the males.

These findings suggest that frequency of positive and negative physical contact experience have a significant impact on the psychological adjustment of female adolescents, as assessed by the above variables. On the other hand, only frequency of negative touch has a significant impact on the psychological adjustment of male adolescents. This is a surprising finding and may suggest that male adolescents are less vulnerable to ill effects of infrequent positive touch experience than they are to frequent negative touch experiences. While this finding needs to be interpreted cautiously in light of possible cultural effects on the reporting of positive touch experiences among males, and the fact that they are simply perceptions of the frequency of touch experiences (and hence, subject to a number of sources of individual difference and bias), the finding that physical contact experience is a potential vulnerability factor is consistent with the findings and conclusions of other authors (e.g., Cochrane, 1990; Kazdin et al., 1985; Montagu, 1972).

The findings also indicate that perceptions of the frequency with which positive and negative touch is experienced is consistently related to parental care scores (the exception being mother care among the females), with mixed results for parental overprotection. That is, the more frequently positive physical contact is perceived to have been experienced, and the less frequently negative physical contact is perceived to have been experienced, the more caring parents are seen to be. Furthermore, for the most part both positive and negative touch offered statistically significant independent prediction of mother and father care, with mixed findings again evident for mother and father overprotection. Although no literature could be found relating to the issue of physical contact and perceptions of parental care, this finding makes intuitive sense and suggests a substantial physical component in perceptions of parental care.

The incidence of suicidal ideation in the sample under study approached 30%, and the incidence of deliberate self-harm approached 20%. Although there was no statistically significant gender effect for either behavior (i.e.,  $p < .01$ ), a greater proportion of females reported having engaged in these behaviors. This gender inequality is consistent with incidence figures for school-based samples presented in the literature (Martin et al., 1993; Pearce and Martin, 1993; Schaffer et al., 1988), as is the proportion of suicidal ideation (Albert and Beck, 1975; Davis, 1985; Martin et al., 1993).

Data analyses indicated that subjects who reported suicidal ideation perceived themselves as having experienced significantly more negative touch and less positive touch than those who did not. This was also the case for those subjects who reported having engaged in deliberate self-harm in comparison with those who had not. These findings were consistent with the hypotheses and suggested that quality and quantity of physical contact experience may be a risk factor for suicidal behaviors as well.

Thus, the perceived quality and quantity of physical contact experience has implications for a number of aspects of psychological adjustment and perceptions of parenting among adolescents in this sample. This is consistent with our hypotheses and suggests that frequent negative physical contact experiences and infrequent positive physical contact experiences may be seen as vulnerability factors for a range of difficulties among adolescents. Furthermore, the findings also suggest

that female adolescents are vulnerable to a number of difficulties when they experience frequent negative physical contact and infrequent positive physical contact, whereas male adolescents seem to be vulnerable to these difficulties when they experience frequent negative physical contact only. As to why there is this gender difference can only be speculated upon, although it may arise out of male adolescents' beliefs and attitudes about positive physical contact needs. These are important findings which, to the best of our knowledge, have not been demonstrated with adolescents in an empirical manner before. Hence, further research in this area is indicated to replicate and further investigate these issues.

A limitation of the present study is the cross-sectional nature of its design. Such a design prohibits an analysis of causal relationships or the enduring nature of the relationship between differential quality and quantity of physical contact experience and psychological well-being. In view of this, it cannot be asserted that effects opposite to those discussed thus far are not equally possible, that is, that the characteristics of the individual may affect frequency of positive and negative experiences. It follows, then, that future research using a longitudinal research design is indicated to investigate further this and other aspects of causality. Furthermore, the study sampled Caucasian adolescents of middle-class background only, and its findings may not be applicable to other populations. Moreover, some differences in the variables under study were observed between the schools, although none reached statistical significance ( $p < .01$ ) and the data from the two schools were combined. While it might be argued that the differences that exist constituted reasonable grounds to have dealt with the two schools separately, these differences were deemed essential, enabling our sample to represent the broadest-possible characteristics of the adolescent population. Finally, the study sampled subjects' *perceptions* of the frequency of positive and negative touch experience, not actual frequency. Although this might be thought of as a limitation, it might be argued from the literature in cognitive psychology that an individual's perceptions of their world are as important (if not more important) as what actually occurs.

In conclusion, this pilot study found that differential quality and perceived quantity of positive and negative touch experiences are related to perceptions of parental

care and a number of aspects of psychological adjustment. In particular, the data suggest that both frequent negative physical contact experiences and infrequent positive physical contact experiences are possibly significant risk factors for psychological difficulties among female adolescents and that frequent negative physical contact experiences is possibly a significant risk factor for psychological difficulties among male adolescents. This portrays a gender difference in the implications of differential quality of physical contact experience among adolescents that is worthy of further investigation. Furthermore, given the importance of adolescence as a period in which the individual is developing a sense of identity and developing skills in interpersonal behavior, the implications of physical contact experience suggested in this study argue for future research attention in this area.

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