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# Parent–Child Connectedness and Behavioral and Emotional Health Among Adolescents

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**Background:** This study sought to examine teen perceptions of mother–child and father–child connectedness, with focus on valuing parental opinions and perception of parental communication and caring, and associations with behavioral and emotional health.

**Methods:** A population-based sample of 4746 students in public schools completed the 2001 Project EAT (Eating Among Teens) survey.

**Results:** Overall, the majority of girls and boys reported valuing their parents' opinion when making serious decisions and believing that their parents cared about them. Yet, one fourth of girls and boys felt unable to talk to their mother about problems, and over half of girls and one third of boys felt unable to talk to their father. Valuing friends' opinions over parents' opinions, and perceiving low parental communication and caring were associated with unhealthy weight control, substance use, suicide attempts, body dissatisfaction, depression, and low self-esteem. Of significant concern, compared to their peers who reported feeling that their mother cared quite a bit or very much, youths who reported feeling as though their mother cared very little or not at all about them reported particularly high prevalence rates of unhealthy weight control behaviors (63.49% girls, 25.45% boys); suicide attempts (33.51% girls, 21.28% boys); low self-esteem (47.15% girls, 24.56% boys); and depression (63.52% girls, 33.35% boys).

**Conclusions:** Adolescents' perceptions of low parental caring, difficulty talking to their parents about problems, and valuing their friends' opinions for serious decisions were significantly associated with compromised behavioral and emotional health. Interventions aimed at improving the parent–child relationship may provide an avenue toward preventing health risk behaviors in youth.

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## Introduction

In one of the most significant works investigating the relationship between several types of influential environments (e.g., family and school) and health risk behaviors among adolescents, Resnick et al.<sup>1</sup> reported that family connectedness was significantly and inversely associated with emotional distress, suicidality, alcohol use, marijuana use, and early age of sexual intercourse. Others have found significant direct associations between pathologic family environments and substance use,<sup>2</sup> depression,<sup>3–5</sup> disordered eating,<sup>6</sup> lower self-esteem,<sup>5</sup> and suicidality.<sup>7–10</sup>

Although separation from parents is a normal developmental task for adolescents, it does not always culminate in a connected parent–child relationship. A 1-year longitudinal project evaluated the quality of the parent–

child relationship during the adolescent transition to increased individuation.<sup>5</sup> Parent–teen relationships deemed as connected were associated with fewer symptoms of depression and anxiety, and greater self-worth than relationships categorized as detached. Similarly, California teens were surveyed across 2 years, and results show an association between family connection and psychological and behavioral health.<sup>11</sup>

For youth, feeling connected to their families is an important anchor, and many do turn to parents for information and guidance. In a nationally representative study of the use of healthcare resources among adolescents, mothers were identified by 41.7% of boys and 58.4% of girls as the first person they would consult for healthcare concerns.<sup>12</sup> More broadly, 60.3% of boys and 71.7% of girls identified parents as one source of healthcare information. However, of concern is that youth who are at greatest need for adult intervention may not seek it. For example, results from a study of 879 adolescents indicated that only about half of youth who had attempted suicide had approached an adult to discuss their problems.<sup>10</sup> Furthermore, those who had attempted suicide reported that they were less likely to

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discuss their problems with a family member in the future compared to those who had not ever attempted suicide.<sup>10</sup>

Previous studies have found significant associations between family connectedness and the behavioral and emotional health of youth, but are limited by investigating only a few health risk behaviors or by a smaller, more homogeneous sample. This study expands on previous research by exploring parent–child communication and caring in a large, ethnically and socioeconomically diverse population of youth, and by investigating a broader range of behavioral and emotional health indicators in order to better inform the development of effective parent and adolescent interventions and to identify populations at greatest risk. It was hypothesized that both girls and boys who indicated valuing their friends' opinions more than their parents' would report higher odds for substance use, suicide attempts, and unhealthy weight-control behaviors, as well as higher odds of low self-esteem, body dissatisfaction, and depression. Similar directional associations were also hypothesized between perceived parental caring and ability to talk to parents about problems, and behavioral and emotional health outcomes.

## Method

### Study Population and Design

Participants in the current study included a total of 4746 students enrolled in 31 public middle and high schools in the greater Minneapolis/St. Paul metropolitan area of Minnesota. Schools with diverse racial/ethnic and socioeconomic profiles were targeted for recruitment to increase diversity within the sample.

In 2001, participants completed the confidential Project EAT (Eating Among Teens) survey in school classes and were asked to have their height and weight measured in a private screened area by trained staff using standardized anthropometric procedures. The study complied with the University of Minnesota's Institutional Review Board and Human Subjects' Committee, and with each school district's research board process for obtaining student consent. The student response rate was 81.5%.

The sample comprised 2357 girls and 2377 boys (12 individuals had missing data for gender and were not included in analyses). Participants were in the following grades: 7th (28.2% girls, 27.4% boys); 8th (6.4% girls, 6.7% boys); 9th (0.9% girls, 1.0% boys); 10th (50.3% girls, 52.6% boys); 11th (10.1% girls, 8.6% boys); and 12th (4.1% girls, 3.8% boys).

### Measures

The Project EAT survey includes 221 self-report questions on demographics, family and personal health attitudes, and nutritional and weight-related factors. Although the Project EAT survey has not been validated against other questionnaires or actual behavior, multidisciplinary professional teams, youth focus groups, and pilot tests of the questions were conducted to provide guidance for the selection and

wording of questions.<sup>13–15</sup> All questions listed below were included in the Project EAT survey.

### Parent–Child Connectedness

**Opinions valued.** One question in the survey asked, “If you had a serious decision to make, like whether or not to continue in school, whose opinions would you value most?” Possible responses were “parent” or “friend.”

**Parent–child communication and caring.** Two questions in the survey were asked separately for each parent.<sup>16</sup> (1) “How much do you feel you can talk to your mother (father) about your problems?” (2) “How much do you feel your mother (father) cares about you?” Possible responses follow: “not at all,” “a little,” “somewhat,” “quite a bit,” or “very much.”

### Behavioral Health

**Weight-control behaviors.** “Which of the following things have you done in order to lose weight or keep from gaining weight during the past year?” Participants were requested to indicate “yes” or “no” to the following responses: exercise, fasted, ate very little food, took diet pills, made myself vomit, used laxatives, used diuretics, used food substitute (powder/special drink), skipped meals, ate more fruits and vegetables, ate less high-fat foods, ate less sweets, and smoked more cigarettes.

Behaviors were grouped as follows: healthy (exercise, ate more fruits and vegetables, ate less high-fat foods, or ate less sweets); less extreme (fasted, ate very little food, used food substitute, skipped meals, or smoked more cigarettes); or extreme (took diet pills, made myself vomit, used laxatives, or used diuretics). Participants were grouped by use (“yes” or “no”) of any less extreme or extreme unhealthy weight control behaviors in the past year.<sup>17</sup>

**Substance use.** “How often have you used the following during the past year (12 months)? Liquor (beer, wine, hard liquor), marijuana, or drugs other than marijuana (acid, cocaine, crack, etc.).”<sup>16</sup> Possible responses follow: “never,” “a few times,” “monthly,” “weekly,” or “daily”. Responses were collapsed into two categories: never versus a few times or more.

**Suicide attempts.** “Have you ever tried to kill yourself?” The original responses included a temporal component (“Yes, during the past year,” “Yes, more than a year ago,” or “No”),<sup>18</sup> but responses were dichotomized (“yes” or “no”) for the current analyses.

### Emotional Health

**Body dissatisfaction.** The dissatisfaction that one experiences with his or her body appearance was assessed using a modified version of Pingitore's<sup>19</sup> scale. Higher scores indicate greater dissatisfaction. A binary score was created using the value separating the highest quartile from the lowest three quartiles.

**Self-esteem.** The self-esteem instrument asked youth to indicate their level of agreement with six sentences from the Rosenberg Self-Esteem Scale.<sup>20</sup> Higher scores reflect lower self-esteem. A binary variable was created using the value

separating the lowest three quartiles from the highest quartile.

**Depressive mood.** Depressive mood was assessed using a scale by Kandel and Davies<sup>21</sup> asking the frequency of six symptoms of depression (dysthymic mood, tension/nervousness, fatigue, worry, sleep disturbance, and hopelessness): “not at all,” “somewhat,” or “very much.” Higher values indicate more severe depressive moods. The summed score separating the lowest three quartiles from the highest quartile was used as a cut-off to create a binary score.

## Demographics

**Parent marital status.** Each student was asked to report the marital status of his or her parents as “married,” “divorced,” “separated,” “parents never married,” or “one/both of my parents is dead.”

**Race/ethnicity.** Students could choose as many of the following as they wished: white, African American, Hispanic, Asian American, Native American, and mixed/other.

**Socioeconomic status.** One or both parents’ highest level of education was used to establish socioeconomic status (SES) for most youth. Due to the fact that some students did not know their parent’s educational level ( $n = 1058$ , 22.3%) or had missing data for items needed to calculate SES, other factors (family eligibility for public assistance, eligibility for free or reduced-cost school meals, and employment status of mother and father) were combined in an algorithm using the classification and regression trees (CART) method,<sup>22</sup> which was found to be predictive of parent education among the participants who completed all questions needed to calculate SES. By using this cartography, the number of missing SES values was reduced to 4.1% ( $n = 196$ ).

## Statistical Analyses

Frequencies and percentages were used to describe the sample by sociodemographic variables and by parent–child communication and caring. Because the sample came from intact social clusters in schools, clustered logistic regression models, in which school was included as a random effect, were used to investigate the association between parent–child connectedness and behavioral and emotional health variables, adjusting for sociodemographic characteristics (grade level, race/ethnicity, SES, and parental marital status). Categorical (grade level, race/ethnicity, and parental marital status, with “white” and “parents are married” serving as the referent groups) and continuous (SES) sociodemographic “covariates” were forced to enter in the first step. In the second step, the parent–child connectedness variable was entered to evaluate the level of improvement of fit in the model. The following response sets served as the comparison: valuing parents’ opinion, feeling able to talk to mother/father quite a bit or very much about, and feeling mother/father cares quite a bit or very much. Adjusted probabilities, standard errors, and significance values were generated. The  $p$  values were not adjusted for multiple testing. All analyses were run separately in 2005 by gender using SAS/STAT software, version 9.1 (SAS Institute Inc., Cary NC, 2004).<sup>23</sup>

## Results

### Description of Sample

Participants’ race/ethnicity follows: white (45.6% girls, 51.3% boys); African American (20.1% girls, 17.9% boys); Asian American (20.6% girls, 17.8% boys); Latina/Latino (5.2% girls, 6.5% boys); and other (8.6% girls, 6.4% boys). They reported their parents’ marital status as married (60.7% girls, 62.6% boys); divorced (18.1% girls, 18.5% boys); or other (separated, never married, or deceased; 21.2% girls, 18.9% boys). SES was calculated and reported as follows: low (20.4% girls, 14.5% boys); low-middle (19.1% girls, 18.5% boys); middle (25.6% girls, 27.6% boys); high-middle (21.5% girls, 25.3% boys); and high (13.4% girls, 14.1% boys).

### Description of Parent–Child Connectedness

Most participants indicated that they valued their parents’ opinions over their friends’ opinions for serious decisions (parents’ opinion: 75.5% girls; 82.2% boys). Approximately half reported that they could talk to their mother about their problems “quite a bit” or “very much” (quite a bit/very much: 52.1% girls, 48.6% boys; somewhat: 22% girls, 23.1% boys; not at all or a little: 25.9% girls, 28.3% boys). Fewer indicated that they could talk “quite a bit” or “very much” to their father about their problems, and in fact, the majority reported that they could not talk to their father (quite a bit/very much: 24.6% girls, 38.2% boys; somewhat: 20.0% girls, 25.2% boys; not at all or a little: 55.4% girls, 36.6% boys). A majority of the girls and boys reported feeling cared about by their mothers (quite a bit/very much: 88.6% girls, 90.8% boys; somewhat: 6.3% girls, 4.5% boys; not at all or a little: 5.1% girls, 4.7% boys) and by their fathers (quite a bit/very much: 78.6% girls, 81.8% boys; somewhat: 8.5% girls, 7.8% boys; not at all or a little: 12.9% girls, 10.4% boys).

### Parent–Child Connectedness and Behavioral Health Indicators

Girls who valued their friends’ opinions over those of their parents, and those who felt that they could not talk (or talk very little) to their mother or father about their problems reported greater prevalence of health risk behaviors than peers who reported higher parental communication and caring (Table 1). Girls who reported low paternal caring did not report higher prevalence of substance use compared to their peers who reported high paternal caring. Of significant interest, girls who reported low maternal caring, compared to peers who reported high maternal caring, reported particularly high prevalence of unhealthy weight control (63.49% vs 18.34%) and suicide attempts (33.51% vs 10.17%).

Among boys, valuing friends’ opinions over those of their parents, and feeling unable (or only slightly able)

**Table 1.** Girls: parent–child connectedness and behavioral health: adjusted probabilities,<sup>a</sup> standard errors, and significance levels<sup>b</sup>

	Unhealthy weight control		Substance use		Suicide attempts	
	AP (SE)	<i>p</i> value	AP (SE)	<i>p</i> value	AP (SE)	<i>p</i> value
<b>Whose opinion is valued for serious decisions?</b>						
Parents' opinion	16.41 (1.34)		33.06 (1.42)		10.44 (0.88)	
Friends' opinion	37.95 (3.33)	<b>&lt;0.001***</b>	55.39 (2.52)	<b>&lt;0.001***</b>	18.13 (1.87)	<b>&lt;0.001***</b>
<b>Feel you can talk to mother about problems?</b>						
Quite a bit or very much	15.14 (1.50)		33.92 (1.68)		9.39 (0.98)	
Somewhat	22.10 (2.79)	<b>0.018*</b>	40.32 (2.56)	<b>0.028*</b>	11.49 (1.59)	0.227
Not at all or a little	35.48 (3.25)	<b>&lt;0.001***</b>	46.81 (2.53)	<b>&lt;0.001***</b>	19.31 (1.91)	<b>&lt;0.001***</b>
<b>Feel you can talk to father about problems?</b>						
Quite a bit or very much	15.02 (2.16)		29.73 (2.30)		9.44 (1.40)	
Somewhat	17.68 (2.59)	0.422	35.73 (2.68)	0.078	10.79 (1.64)	0.521
Not at all or a little	25.72 (1.98)	<b>0.001**</b>	43.65 (1.77)	<b>&lt;0.001***</b>	14.22 (1.19)	<b>0.012*</b>
<b>Feel your mother cares about you?</b>						
Quite a bit or very much	18.34 (1.33)		37.29 (1.37)		10.17 (0.80)	
Somewhat	31.18 (5.58)	<b>0.001**</b>	49.95 (4.96)	<b>0.012*</b>	27.06 (4.13)	<b>&lt;0.001***</b>
Not at all or a little	63.49 (7.35)	<b>&lt;0.001***</b>	47.56 (5.58)	0.065	33.51 (4.95)	<b>&lt;0.001***</b>
<b>Feel your father cares about you?</b>						
Quite a bit or very much	18.78 (1.39)		36.87 (1.45)		10.21 (0.85)	
Somewhat	35.73 (5.36)	<b>0.001**</b>	49.74 (4.39)	<b>0.004**</b>	21.23 (3.32)	<b>&lt;0.001***</b>
Not at all or a little	27.49 (4.06)	<b>0.027*</b>	42.41 (3.67)	0.150	20.87 (2.88)	<b>&lt;0.001***</b>

<sup>a</sup>Adjustments were made for grade level, socioeconomic status, race/ethnicity, and parent marital status, and were clustered for school.

<sup>b</sup>Significance levels are reported with the following comparison: valuing parents' opinion, feeling able to talk to mother/father quite a bit or very much about, and feeling mother/father cares quite a bit or very much.

\**p* < 0.05;

\*\**p* < 0.01;

\*\*\**p* < 0.001 (all bolded).

AP, adjusted probability; SE, standard error.

to talk to mother or father about problems was significantly and directly associated with unhealthy weight control behaviors, substance use, and suicide attempts compared to their peers who reported valuing parents' opinions and feeling able to talk to mother or father about problems (Table 2). Perceptions of low paternal caring were not significantly associated with substance use compared to perceptions of high paternal caring. Similar to their female counterparts, boys who reported low maternal caring, compared to peers who reported high maternal caring, were much more likely to report unhealthy weight control (25.45% vs 3.63%) and to have attempted suicide (21.28% vs 3.97%).

### Parent–Child Connectedness and Emotional Health Indicators

Associations between parent–child connectedness and emotional health indicators are shown in Table 3 (girls) and Table 4 (boys). For all youth, parent–child relationships characterized by valuing friends' opinion compared to those of parents, and feeling unable to talk to mother or father about problems were strongly associated with scores indicating body dissatisfaction, low self-esteem, and depression. Among girls, perceptions of minimal parental caring were associated with body dissatisfaction, low self-esteem, and depression. For boys, minimal parental caring was associated only

with low self-esteem and depression, but not for body dissatisfaction.

### Discussion

The aim of the present study was to explore associations between parent–child connectedness and a broad range of behavioral and emotional health indicators among a population-based sample of girls and boys. Results from this large study of youth indicate that parent–child relationships characterized by valuing parent opinions for serious decisions, feeling able to talk to parents about problems, and perceiving parental caring were associated with more healthy indicators of behavioral and emotional health. These results are consistent with past research, which indicated that family connectedness was significantly and inversely associated with several health risk behaviors and emotional health indicators,<sup>1</sup> depressive symptoms and lower self-worth,<sup>5</sup> substance use,<sup>2</sup> and bulimic symptoms.<sup>6</sup> Yet the current study adds to the literature by demonstrating a significant relationship between parent–child connectedness and a broad range of serious behavioral and emotional health risk behaviors (substance use, unhealthy weight control, suicide attempts, body dissatisfaction, low self-esteem, and depression) in a diverse sample of both boys and girls.

**Table 2.** Boys: parent–child connectedness and behavioral health: adjusted probabilities,<sup>a</sup> standard errors, and significance levels<sup>b</sup>

	Unhealthy weight control		Substance use		Suicide attempts	
	AP (SE)	<i>p</i> value	AP (SE)	<i>p</i> value	AP (SE)	<i>p</i> value
<b>Whose opinion is valued for serious decisions?</b>						
Parents' opinion	3.41 (0.65)		39.19 (1.45)		3.77 (0.57)	
Friends' opinion	9.31 (2.09)	<b>&lt;0.001***</b>	56.42 (2.90)	<b>&lt;0.001***</b>	10.21 (1.81)	<b>&lt;0.001***</b>
<b>Feel you can talk to mother about problems?</b>						
Quite a bit or very much	3.02 (0.68)		35.73 (1.77)		2.80 (0.57)	
Somewhat	3.25 (1.00)	0.834	50.10 (2.60)	<b>&lt;0.001***</b>	4.85 (1.09)	0.052
Not at all or a little	8.79 (1.76)	<b>&lt;0.001***</b>	47.45 (2.41)	<b>&lt;0.001***</b>	8.83 (1.40)	<b>&lt;0.001***</b>
<b>Feel you can talk to father about problems?</b>						
Quite a bit or very much	2.48 (0.67)		34.99 (1.97)		3.74 (0.76)	
Somewhat	3.82 (1.08)	0.226	46.12 (2.46)	<b>&lt;0.001***</b>	2.85 (0.79)	0.403
Not at all or a little	7.40 (1.43)	<b>&lt;0.001***</b>	47.33 (2.14)	<b>&lt;0.001***</b>	7.73 (1.18)	<b>0.001***</b>
<b>Feel your mother cares about you?</b>						
Quite a bit or very much	3.63 (0.63)		41.66 (1.41)		3.97 (0.56)	
Somewhat	9.74 (3.89)	<b>0.019*</b>	48.72 (5.83)	0.229	11.29 (3.65)	<b>0.003**</b>
Not at all or a little	25.45 (7.13)	<b>&lt;0.001***</b>	50.75 (6.35)	0.157	21.28 (4.92)	<b>&lt;0.001***</b>
<b>Feel your father cares about you?</b>						
Quite a bit or very much	3.62 (0.66)		41.20 (1.48)		4.00 (0.58)	
Somewhat	5.87 (2.14)	0.198	50.73 (4.41)	<b>0.036*</b>	8.95 (2.40)	<b>0.006**</b>
Not at all or a little	12.38 (3.25)	<b>&lt;0.001***</b>	45.29 (4.11)	0.340	10.11 (2.34)	<b>&lt;0.001***</b>

<sup>a</sup>Adjustments were made for grade level, socioeconomic status, race/ethnicity, and parent marital status, and were clustered for school.

<sup>b</sup>Significance levels are reported with the following comparison: valuing parents' opinion, feeling able to talk to mother/father quite a bit or very much about, and feeling mother/father cares quite a bit or very much.

\**p* < 0.05;

\*\**p* < 0.01;

\*\*\**p* < 0.001 (all bolded).

AP, adjusted probability; SE, standard error.

A particularly interesting finding is the valuation that youth place on their parents' opinions when making serious decisions, notably valuing their parents' opinions more than that of their peers. Although some youth showed more interest in being with their friends than spending time with family, parents may have more influence on their teens' behaviors than may be apparent to them. Valuing parents' opinions appears to be a protective factor against unhealthy behavioral and emotional health indicators among both girls and boys. Healthcare providers and school personnel working with teens may want to share study results with parents to help them feel empowered by the knowledge that their opinions matter. In order to promote teens' attention to and respect for parents' opinions, parents of youth may wish to practice having discussions on sensitive topics without lending judgment to their teen's ideas until asked, and then strategizing solutions to the problem in a collaborative manner.

One particular area of concern was the significance of adolescents' perceptions of maternal caring, and its association with both behavioral and emotional health. Interventions can enhance mother–child caring. For families in which the mother–child relationship is strained, youth may benefit from developing positive relationships with other adult female role models, such as through Big Sister programs, other female relatives, or community leaders, while continuing to ameliorate

the parent–child relationship. A longitudinal study of adolescents found that youth who experience a relationship deficit in one source (e.g., the family) may be able to compensate for that void by forming a positive relationship from another source (e.g., school, neighborhood).<sup>23</sup>

Increased perceived communication and caring by **either** mother or father were consistently associated with adolescent well-being. These associations underscore the importance of the parent–child relationship in promoting overall health among youth, and emphasize that while it is valuable for **either** parent to be involved in enhancing the parent–teen relationship, it may be ideal for **both** mother–teen and father–teen relationships to be fostered through open communication and caring. Professionals working with youth and their families, such as family therapists and school counselors, should promote parent–child communication and find opportunities to enhance parental involvement in addressing primary and tertiary prevention of compromising behaviors among teens. One way to promote parent–child connectedness may be to encourage parents and adolescents to spend time together, such as at family mealtimes, as higher frequencies of family meals also have been associated with lower substance use, depressive symptoms, and suicidality, even after controlling for family connectedness.<sup>24</sup> Healthcare professionals should also assess the pres-

**Table 3.** Girls: parent–child connectedness and emotional health: adjusted probabilities,<sup>a</sup> standard errors, and significance levels<sup>b</sup>

	Body dissatisfaction		Low self-esteem		Depression	
	AP (SE)	<i>p</i> value	AP (SE)	<i>p</i> value	AP (SE)	<i>p</i> value
<b>Whose opinion is valued for serious decisions?</b>						
Parents' opinion	27.75 (2.40)		30.10 (2.18)		34.11 (1.38)	
Friends' opinion	43.40 (1.32)	<b>&lt;0.001***</b>	14.93 (0.98)	<b>&lt;0.001***</b>	51.54 (2.41)	<b>&lt;0.001***</b>
<b>Feel you can talk to mother about problems?</b>						
Quite a bit or very much	26.32 (1.49)		12.44 (1.07)		31.55 (1.57)	
Somewhat	32.83 (2.35)	<b>0.013*</b>	21.12 (1.99)	<b>&lt;0.001***</b>	40.46 (2.46)	<b>0.001**</b>
Not at all or a little	41.98 (2.37)	<b>&lt;0.001***</b>	29.72 (2.14)	<b>&lt;0.001***</b>	51.15 (2.39)	<b>&lt;0.001***</b>
<b>Feel you can talk to father about problems?</b>						
Quite a bit or very much	28.10 (2.19)		12.68 (1.58)		30.77 (2.24)	
Somewhat	24.49 (2.26)	0.237	14.64 (1.83)	0.407	29.82 (2.41)	0.765
Not at all or a little	35.95 (1.63)	<b>0.004**</b>	22.87 (1.37)	<b>&lt;0.001***</b>	45.07 (1.69)	<b>&lt;0.001***</b>
<b>Feel your mother cares about you?</b>						
Quite a bit or very much	29.18 (1.23)		16.04 (0.93)		35.67 (.01)	
Somewhat	48.05 (4.67)	<b>&lt;0.001***</b>	34.88 (4.46)	<b>&lt;0.001***</b>	58.21 (4.61)	<b>&lt;0.001***</b>
Not at all or a little	56.91 (5.19)	<b>&lt;0.001***</b>	47.15 (5.25)	<b>&lt;0.001***</b>	63.52 (5.00)	<b>&lt;0.001***</b>
<b>Feel your father cares about you?</b>						
Quite a bit or very much	28.64 (1.31)		15.87 (0.99)		34.44 (1.37)	
Somewhat	46.40 (4.05)	<b>&lt;0.001***</b>	30.82 (3.79)	<b>&lt;0.001***</b>	52.02 (4.11)	<b>&lt;0.001***</b>
Not at all or a little	41.60 (3.48)	<b>&lt;0.001***</b>	29.59 (3.29)	<b>&lt;0.001***</b>	55.53 (3.51)	<b>&lt;0.001***</b>

<sup>a</sup>Adjustments were made for grade level, socioeconomic status, race/ethnicity, and parent marital status, and were clustered for school.

<sup>b</sup>Significance levels are reported with the following comparison: valuing parents' opinion, feeling able to talk to mother/father quite a bit or very much about, and feeling mother/father cares quite a bit or very much.

\**p* < 0.05;

\*\**p* < 0.01;

\*\*\**p* < 0.001 (all bolded).

AP, adjusted probability; SE, standard error.

ence of health problems in parents, as there are strong associations between fathers' and mothers' mental health and that of their offspring.<sup>25,26</sup> For example, male and female adolescents of mothers with suicidality, compared to their peers whose mothers did not report suicidality, indicated greater suicide attempts.<sup>25</sup> In addition, depression in a mother has been found to be associated with depression recurrence, chronicity, and severity in young adult sons and daughters.<sup>26</sup>

Several practical implications result from this study. Professionals designing teen interventions may want to specifically target enhancing the parent–child relationship. One parent-based intervention targeted the development of communication skills and strengthening of adult–child relationships through lessons such as resolving conflicts in a respectful manner by avoiding blame and criticism, exploring mutual needs within communication, solving problems constructively, and encouraging adolescent emancipation.<sup>27</sup> Toward the end of educating parents on suicide risk factors among youth, children of mothers who received the informal professionally led intervention groups reported improved perception of maternal caring and reduced parent–child conflicts after the 3-month intervention, compared to youth in the control condition.<sup>27</sup> These promising results indicate that mother–child relationships are malleable and able to be improved within a short period of time. Interventions targeting parent–

child connections and communication may be effective in preventing and reducing the use of health risk behaviors, while at the same time enhancing emotional health. Importantly, results from the current study, in which over one half of girls (55.4%) and one third of boys (36.6%) did not feel that they could talk to their father about their problems, underscore the importance of including both parents in improving communication. It is possible that interventions that target mothers form the foundation, and those targeting fathers construct the protective walls against health risk behaviors. Furthermore, although there were no consistent results across parent–child connectedness variables with respect to race/ethnicity, lower SES was regularly associated with lower perceived family connectedness (ability to talk to mother or father, perception of caring from mother or father). While a full assessment to identify at-risk youth is critical, professionals conducting broader outreach programs (such as school based or as part of a community intervention) may choose to target interventions toward lower SES youth, as low SES may be associated with greater need.

This study had several strengths that increase the utility of study findings. The use of a diverse, nonclinical, population-based sample of girls and boys allows for generalization to larger populations, exploration of patterns across race/ethnicities and socioeconomic status, and identification of groups at potential high risk

**Table 4.** Boys: parent–child connectedness and emotional health; adjusted probabilities, standard errors, and significance levels<sup>b</sup>

	Body dissatisfaction		Low self-esteem		Depression	
	AP (SE)	<i>p</i> value	AP (SE)	<i>p</i> value	AP (SE)	<i>p</i> value
<b>Whose opinion is valued for serious decisions?</b>						
Parents' opinion	11.68 (0.85)		7.47 (0.74)		17.83 (0.98)	
Friends' opinion	18.07 (2.13)	<b>0.002**</b>	14.18 (1.98)	<b>&lt;0.001***</b>	30.80 (2.52)	<b>&lt;0.001***</b>
<b>Feel you can talk to mother about problems?</b>						
Quite a bit or very much	10.56 (1.02)		6.16 (0.82)		14.94 (1.17)	
Somewhat	11.77 (1.54)	0.501	6.49 (1.20)	0.815	21.80 (1.96)	<b>0.002**</b>
Not at all or a little	17.82 (1.70)	<b>&lt;0.001***</b>	15.16 (1.65)	<b>&lt;0.001***</b>	28.19 (1.97)	<b>&lt;0.001***</b>
<b>Feel you can talk to father about problems?</b>						
Quite a bit or very much	8.36 (1.02)		5.77 (0.88)		15.26 (1.34)	
Somewhat	14.07 (1.60)	<b>0.002**</b>	7.41 (1.24)	0.258	17.27 (1.73)	0.355
Not at all or a little	16.84 (1.46)	<b>&lt;0.001***</b>	12.82 (1.38)	<b>&lt;0.001***</b>	27.68 (1.74)	<b>&lt;0.001***</b>
<b>Feel your mother cares about you?</b>						
Quite a bit or very much	12.31 (0.82)		7.50 (0.67)		18.79 (0.94)	
Somewhat	15.61 (3.82)	0.354	19.58 (4.30)	<b>&lt;0.001***</b>	38.21 (5.32)	<b>&lt;0.001***</b>
Not at all or a little	21.99 (5.80)	<b>0.016*</b>	24.56 (5.07)	<b>&lt;0.001***</b>	33.35 (5.46)	<b>0.002**</b>
<b>Feel your father cares about you?</b>						
Quite a bit or very much	11.45 (0.83)		7.31 (0.71)		18.02 (0.98)	
Somewhat	21.42 (3.33)	<b>&lt;0.001***</b>	16.00 (3.06)	<b>&lt;0.001***</b>	34.56 (3.91)	<b>&lt;0.001***</b>
Not at all or a little	17.84 (2.86)	<b>0.014*</b>	14.91 (2.73)	<b>&lt;0.001***</b>	27.54 (3.39)	<b>0.003**</b>

<sup>a</sup>Adjustments were made for grade level, socioeconomic status, race/ethnicity, and parent marital status and were clustered for school.

<sup>b</sup>Significance levels are reported with the following comparison: valuing parents' opinion, feeling able to talk to mother/father quite a bit or very much about, and feeling mother/father cares quite a bit or very much.

\**p* < 0.05;

\*\**p* < 0.01;

\*\*\**p* < 0.001 (all bolded).

AP, adjusted probability; SE, standard error.

for lower levels of parent–child connectedness. Furthermore, the broad range of outcomes assessed yields a greater understanding of the diversity of health risk behaviors potentially associated with parent–child connectedness.

The present results need to be contextualized with several limitations. The questions assessing parent–child connectedness were brief (and thus cannot be used in an in-depth and qualitative exploration of the parent–child relationship), and prone to source variance due to self-report by only one reporter (adoles-

cent). Some cells of interest yielded small sample sizes. The cross-sectional design cannot address causation between variables. While parent–child connectedness likely has an impact on adolescent well-being, it may also be that the health-compromising behaviors among teens lead to deterioration of family relations, perceived levels of parental communication and caring, and increased reliance on peers' opinions. Future prospective studies can address the direction of these relationships.

In conclusion, adolescents' perceptions of parent–child relationships were significantly associated with behavioral and emotional health indicators. Healthcare professionals and school personnel should familiarize themselves with the perceived parent–child connectedness of youth. Interventions may target the mother–teen relationship as a foundation for change, but ideally should include both parents when possible for the most comprehensive effort toward preventing youth health risk behaviors.

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### What This Study Adds . . .

The current study of a large, diverse population of youth expands on previous research using smaller, homogenous samples, and explores the relationship between a broad range of behavioral and emotional health indicators and specific characteristics of parent–child communication and caring.

Valuing parent opinions for serious decisions, feeling able to discuss problems with parent(s), and perceiving parent's caring were related inversely to substance use, unhealthy weight control, suicide, body dissatisfaction, and depression, and directly to self-esteem.

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