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Parenting style and mental disorders in a nationally representative sample of US adolescents

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Abstract

Purpose: We examined associations between parenting style and past-year mental disorders in a nationally representative cross-sectional survey of U.S. adolescents and whether the associations differed by adolescent demographic characteristics.

Methods: The sample included 6,483 adolescents aged 13 to 18 years who were interviewed for a full range of *DSM-IV* mental disorders. Parenting style was assessed by adolescent-reported maternal and paternal care and control using items from the Parental Bonding Instrument. We controlled for socio-demographics, parental history of mental disorders, stressful life events, sexual violence, inter-parental conflict, and household composition. We also tested for two-way interactions between parental care and control and adolescent age, sex, and race/ethnicity.

Results: In adjusted models, high maternal care was associated with lower odds of depressive, eating, and behavioral disorders, and high maternal control was associated with greater odds of depressive, anxiety, eating, and behavioral disorders. High paternal care was associated with lower odds of social phobia and alcohol abuse/dependence. High paternal control was associated with greater odds of agoraphobia and alcohol abuse/dependence but with lower odds of attention-deficit/hyperactivity disorder. Associations of maternal and paternal control with anxiety disorders and substance abuse/dependence differed by sex. High paternal care was associated with lower odds of anxiety disorders only among Hispanics and non-Hispanic blacks.

Conclusions: Perceived parental care and control were associated with adolescent mental disorders after controlling for multiple potential confounders. Differential patterns of association were found according to adolescent sex and race/ethnicity. Findings have implications for prevention and intervention programs that incorporate familial contextual factors.

Keywords

adolescent; epidemiology; mental disorders; National Comorbidity Survey; parenting style

Although family history of mental disorders is one of the most consistent and potent risk factors for mental disorders in offspring, both familial and non-familial environmental

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factors are thought to play a role in etiology [1]. Many aspects of parenting, ranging from daily interactions to potentially traumatic experiences such as abuse and inter-parental conflict, may be not only mechanisms through which parental disorders confer increased risk to offspring but also independent risk factors for mental disorders [2,3]. Parents' attitudes and behaviors in day-to-day interactions with offspring, characterized as parenting style, have been associated with offspring's mental health in childhood [4,5], adolescence [6–11], and adulthood [12–14].

Among various measures of parenting style, the Parental Bonding Instrument (PBI) was developed to assess two principal dimensions of parenting style, care and control [15]. The care dimension measures the informant's perception of affection and warmth expressed by the parent toward the offspring, whereas the control dimension measures the extent of a parent's overprotection and authoritarianism (i.e., excessive interference with the offspring's autonomy). Low parental care and high parental control during childhood and adolescence have been associated with depression [16–21,14,22], anxiety disorders [16,23,21,22], suicidal behavior, substance abuse or dependence [14,21,22], and eating disorders [22] in adulthood. Some of these studies found that the associations were specific to only one parent. For example, high maternal control, but not paternal control, has been associated with mood and anxiety disorders [17,23]. In the National Comorbidity Survey, patterns of association that differed for maternal and paternal parenting style and by respondent sex were demonstrated for multiple disorder outcomes [16]. Population-based studies of adolescents have reported similar associations of low parental care and high parental control with depression, anxiety, and behavioral symptoms or disorders [6,24,7,8,25]. However, these studies have not consistently compared maternal parenting styles to paternal parenting styles in their associations with adolescent mental disorders.

Additional gaps exist in the literature regarding the association between parenting style and adolescent mental health. Parenting style is closely related to demographic characteristics as well as a wide range of adverse experiences among offspring [3,22], but most previous studies of adolescents have not adequately controlled for these factors. Potential confounders that have been associated with adolescent mental disorders include family structure, socioeconomic status [3], parental history of mental disorders [26,27,14], stressful life events [28,29], sexual violence [2], and inter-parental conflict [30]. Although some studies have controlled for parental marital status [7,14,4,8], others ignore aspects of household composition such as number of biological parents and siblings. Second, few population-based studies in adolescents have assessed whether the potential effects of parenting style differ by adolescent demographic characteristics. Systematic assessment of demographic differences is necessary because a "one model fits all" approach might overlook important contextual, cultural, and developmental influences [31] and differences in perceptions of parenting between adolescents [4]. For example, two studies using data from the National Longitudinal Study of Adolescent Health reported that associations between parenting style and adolescent smoking differed by racial/ethnic group [32,33]. To our knowledge, no population-based studies of adolescents have examined whether associations between parenting style and the full range of *DSM-IV* diagnoses differ by demographic characteristics.

In this study, we examined the association between perceived maternal and paternal care and control and past-year mental disorders in adolescents, while addressing the limitations of past research. We used data from the National Comorbidity Survey Replication-Adolescent Supplement (NCS-A), which assessed *DSM-IV* disorders in a nationally representative sample of US adolescents aged 13 to 18. Unlike the previous community studies that used smaller and homogeneous samples, the NCS-A's large sample size and broad range of measures allowed us to assess: (1) socio-demographic correlates of parenting style; (2) associations of parenting style with past-year mental disorders when adjusted for potential confounders; and (3) whether associations between parenting style and past-year mental disorders differ by adolescent age, sex, and race/ethnicity. We hypothesized that low perceived maternal and paternal care and high maternal and paternal control would be associated with increased odds of mental disorder. We further hypothesized that associations would differ in magnitude by age, sex, and race/ethnicity.

Method

Sample and Procedures

The NCS-A is a nationally representative survey of 10,123 adolescents aged 13 to 18 years in the continental US, and information on the sampling strategy, participation rates, and instruments in the NCS-A are described in greater detail elsewhere [34–37]. The survey was carried out in a dual-frame sample that included a household subsample (n=879) and a school subsample (n=9,244), and the overall NCS-A adolescent response rate was 75.6% [34]. Parents or guardians were mailed a self-administered questionnaire (PSAQ) and were asked to provide information on the adolescent's mental and physical health and other family-and community-level characteristics. Parents of 6,483 adolescents completed the PSAQ with conditional response rates of 82.5 and 87.9% for household and school subsamples, respectively. This subsample of 6,483 adolescents was used in this study. The human subjects committees of Harvard Medical School and the University of Michigan approved the procedures.

Measures

Past-year mental disorders were measured using a modified version of the World Health Organization (WHO) Composite International Diagnostic Interview Version 3.0 (CIDI), a fully structured, lay-administered interview. These included six classes of *DSM-IV* disorders: mood (major depression or dysthymia, bipolar I or II), anxiety (panic disorder, agoraphobia, social phobia, specific phobia, generalized anxiety disorder [GAD], separation anxiety disorder [SAD], post-traumatic stress disorder [PTSD]), attention-deficit/hyperactivity disorder (ADHD), behavioral (oppositional defiant disorder [ODD], conduct disorder [CD]), substance use (alcohol abuse/dependence, drug abuse/dependence), and eating (anorexia nervosa, bulimia nervosa, and binge eating). Mood, anxiety, eating, and substance use disorder diagnoses were based on adolescent reports because previous research has indicated that adolescents more accurately report emotional symptoms and substance use [38]. Behavioral disorder diagnoses included information from parents derived from the PSAQ. For ODD and CD, information from the parent and the adolescent were

combined at symptom level, whereas only parent reports were employed for diagnoses of ADHD due to low validity of adolescent reports [38–40].

In the CIDI childhood experience module, adolescents were asked eight items from the PBI. These items were asked twice: once regarding the biological mother or other woman who “spent the most time raising” the adolescent, and once regarding the biological father or other man who “spent the most time raising” the adolescent. Responses were coded as five ordinal categories ranging from “not at all” to “a lot.” Exploratory factor analysis suggested two factors: “care” (four items: “How much love and affection did she/he give you?”; “How much did she/he really care about you?”; “How much could she/he understand your problems and worries?”; “How much could you open up and talk to her/him about things that were bothering you?”) and “control” (three items: “How much did she/he stop you from doing things that other kids your age were allowed to do?”; “How strict was she/he with her/his rules for you?”; “How overprotective was she/he?”). One item (“How much did she/he expect you to do your best in everything you did?”) did not load well onto either factor and was not considered for further analysis. The distributions of responses were skewed, particularly in parental care toward the “a lot” category. Graphical inspection revealed it would be inappropriate to assume a linear relationship between parental care/control and the odds of mental disorder. Thus, care and control were dichotomized as “high” if the response was “a lot” to all four items of care or all three items of control, and as “low” otherwise.

Potential confounders, drawn from the adolescent CIDI report, included socio-demographics (age, sex, race/ethnicity, parental education, family income-to-poverty ratio, number of biological parents in the household, birth order, and number of siblings) [41]; parental history of mental disorders (parent report of depression, GAD, panic disorder, substance use disorder, or suicide); adolescent reported lifetime experiences of rape or sexual violence, drawn from the CIDI PTSD module; any past-year stressful life event (e.g., family or financial loss, parental divorce and separation) [28], drawn from a CIDI module on stressful life events; and inter-parental conflict (verbal conflict and physical abuse) [30], drawn from a CIDI module on childhood experiences. The coding and distribution of each covariate is displayed in Table 1.

Statistical Analysis

Complete data including PBI items and potential confounders were available for analysis for 5,838 adolescents. All statistical analyses were completed with the SAS 9.3 software package (the SAS Inc. Cary, NC). Standard errors and 95% confidence intervals were estimated using Taylor series linearization to account for the complex survey design. Cross-tabulations were used to describe the distribution of parental care and control by socio-demographic characteristics and potential confounders. Logistic regression was used to estimate odds ratios (ORs) and 95% confidence intervals (CIs) for the associations between parental care and control and 12-month psychiatric diagnoses. As there was no evidence of interaction between parenting style dimensions, each dimension was considered separately. Unadjusted models included only one parenting dimension and one outcome. Adjusted models additionally included the other 3 parenting dimensions and all adolescent demographics and potential confounders. Two-way interactions between parenting style

dimensions and demographic characteristics (age, sex, race/ethnicity) were assessed for outcomes of MDD/dysthymia, any anxiety disorder, and any substance use disorder. Significant tests were evaluated using Wald χ^2 tests based on design-adjusted variance-covariance matrices. *P*-values less than 0.05 were considered statistically significant.

Results

Table 1 presents the weighted proportions of high parental care and control by socio-demographic characteristics and potential confounders. All but age and history of sexual violence were associated with at least one parenting style dimension. Females were more likely than males to report high paternal control and less likely to report high paternal care. Maternal care reports differed by parental education, and both maternal and paternal control reports varied by household income level. No characteristics or confounders were significantly associated with all four parenting dimensions.

Table 2 presents unadjusted and adjusted ORs (AORs) and 95% CIs of past-year mental disorders in associations with parental care and control. High maternal care was associated with lower odds of MDD or dysthymia, eating disorders, and CD or ODD, with adjusted ORs ranging from 0.43 (95% CI=0.29–0.63) to 0.58 (95% CI=0.40–0.82). High maternal care was associated with lower odds of specific phobia and alcohol and drug abuse/dependence in unadjusted models only. High maternal control was associated with greater odds of MDD or dysthymia, social phobia, panic disorder, SAD, PTSD, eating disorders, and CD or ODD with AORs ranging from 1.93 (95% CI=1.02–3.68) to 3.86 (95% CI=1.41–10.6).

High paternal care was associated with lower odds of social phobia (AOR=0.40; 95% CI=0.22–0.74) and alcohol abuse/dependence (AOR=0.51; 95% CI=0.27–0.95) in both adjusted and unadjusted models. A number of protective associations did not withstand adjustment: mood disorders, social phobia, specific phobia, PTSD, alcohol and drug abuse/dependence, and CD or ODD. High paternal control was associated with greater odds of agoraphobia (AOR=3.37; 95% CI=1.31–8.69) and alcohol abuse/dependence (AOR=2.16; 95% CI=1.16–4.05) but with lower odds of ADHD (AOR=0.43; 95% CI=0.20–0.91). High paternal control was associated with specific phobia and SAD only in unadjusted models.

Figure 1 presents group-specific associations between parental care and control and past-year mental disorders by sex and race/ethnicity, where an interaction was present. High maternal control was associated with greater odds of anxiety disorders in females only ($p<0.01$; Figure 1A). High paternal care was associated with lower odds of anxiety disorders among Hispanics and non-Hispanic blacks, but not among non-Hispanic whites or those in the “other” racial/ethnic group ($p<0.01$; Figure 1B). Whereas high maternal control was associated with greater odds of substance abuse/dependence in females ($p<0.01$; Figure 1C), high paternal control was associated with greater odds in males ($p=0.02$; Figure 1D). No other interaction tests were statistically significant (not shown).

Discussion

To our knowledge, this is the first study to systematically assess associations between perceived parenting style and a wide range of past-year mental disorders in a nationally

representative sample of US adolescents. At least one parenting style was associated with most of the major subtypes of mental disorders. Some, but not all, associations were robust to control for multiple confounders including socio-demographics, parental mental health, family structure, and multiple indicators of adversity. We also show specific patterns of associations by adolescent sex and race/ethnicity.

Maternal and paternal parenting styles were differentially associated with adolescent mental disorders when adjusted for potential confounders. Low maternal, but not paternal, care and high control were associated with depression, eating disorders, and behavioral disorders in adolescents. In contrast, only low paternal care and high paternal control were associated with alcohol abuse or dependence and phobias. We found no association in which maternal and paternal care or maternal and paternal control were both associated with the same mental disorder. This contrasts with some previous population-based studies of adults and adolescents that have reported both low maternal and low paternal care to be associated with depression [16,17,22,7]. It is consistent, however, with some existing studies that found parent differences for parental control as well as for other mental disorders [16,17,23,24], and suggests that future studies of adolescents that examine parent differences might be needed.

Several group differences emerged when we examined interactions of parental care and control with offspring sex and race/ethnicity. We found three associations that were specific to either mother-daughter or father-son relationships. High maternal control was associated with anxiety and substance use disorders in only females, which might explain the lack of association in the pooled sample. In addition, high paternal control was associated with substance use disorders only among males. The existence of sex differences is consistent with results from the National Comorbidity Survey, a representative sample of U.S. adults [16]. In that study, maternal care was associated with anxiety disorders and alcohol abuse in women but not in men. Similarly, paternal care was associated with 9 lifetime mental disorders in men but only with one in women, and paternal overprotection and authoritarianism were associated with mental disorders only among men [16]. Sex-specific associations are consistent with the traditional theoretical importance of same-sex parent-child relationships in adolescent development [42]. However, for most of the associations we assessed between parental bonding and mental disorder, no sex interactions were detected. This is broadly consistent with the lack of gender differences reported by systematic reviews of general parenting and child and adolescent mental disorder [43,44,5].

In contrast to previous studies [33,32], we did not find racial/ethnic differences in the association between parenting style and substance abuse/dependence. However, we did find that high paternal care was protective for anxiety disorders among Hispanics and non-Hispanic blacks, but not among non-Hispanic whites. Differences in associations between parental bonding and mental disorder by racial/ethnic subgroup may be due to cultural influences on parenting norms and perceptions of parenting among offspring. Both internal (e.g., cultural beliefs, attitudes, values, family roles, expectations) and external (discrimination, prejudice, poverty, neighborhood context, access to resources) factors may impact parenting practices in different racial/ethnic groups and lead to differences in what constitutes optimal parenting [31]. In addition, racial/ethnic group may be a proxy for other

risk factors, such as exposure to adversity and trauma, that may modify the effect of parental bonding on mental health [45,46].

The presence of group-specific associations by sex and race/ethnicity underscores the complexity of the relationships between parenting style and adolescent mental disorders. Defining optimal levels of parental control may be especially challenging during adolescence due to dynamic parent-child interactions and increasing adolescent autonomy. Parental behaviors that limit adolescent autonomy and are thus perceived as strict or overprotective might have negative consequences in certain contexts, but positive or no consequences in others. Parents may also adapt parenting styles in response to their offspring's symptoms and behaviors [4]. This effect heterogeneity may result in observed associations between parental control and mental disorders that are modest or null. A recent meta-analysis found that the link between parental control and adolescent depression and anxiety might be smaller than previously suggested [6]. The mean effect size of parental control for anxiety disorders was not significant in longitudinal studies and small in both retrospective and cross-sectional studies.

The inverse association we found between paternal control and odds of ADHD has not been previously reported in studies using the PBI. This could be attributed to a more structured home environment characterized by increased parental monitoring that might be protective against ADHD. Earlier research showed that paternal rejection, which is another measure of parenting style, was associated with offspring's ADHD symptoms at follow-up and not vice versa [4]. However, the lack of uniformity across instruments that assess dimensions of parenting style complicates integration of findings across studies.

The findings in this study should be considered in the context of its limitations and strengths. First, the temporal associations between parental care and control and mental disorders could not be assessed in these data. Adolescents' mental health status may influence both parental behavior and adolescents' perception of parental care and control. For example, adults who are currently in a depressive episode, but not those who are in remission, might differ from controls in their reports of parental behavior [47]. However, studies in adults have shown that the current mood state does not distort recall of adverse experiences [48,49]. Second, the use of an abbreviated PBI instead of the original 25-item PBI, as well as dichotomization of parental care and control measures, could have contributed to the differences from previous studies. Finally, we did not have complete mental health history of both parents because only one parent completed a self-administered questionnaire. The strengths of this study are the measurement of *DSM-IV* diagnoses, access to data from a large nationally-representative sample, and measures of a broad range of potential confounders.

We found that low parental care and high maternal control were associated with a number of past-year mental disorders in adolescents. Yet, associations differed both by parent, outcome, and adolescent characteristics, highlighting the complexity of the relationship between parenting style and mental health. Our findings suggest that future studies should account for potential differences based on characteristics such as sex and race/ethnicity. In addition, because parenting factors have been targeted in interventions aimed at preventing

mental health problems among adolescents (e.g., [50]) research that examines parenting style in relation to a variety of mental disorders against the background of genetic risk and environmental context [51,52,14,53] may ultimately inform the incorporation of familial factors in prevention and intervention programs.

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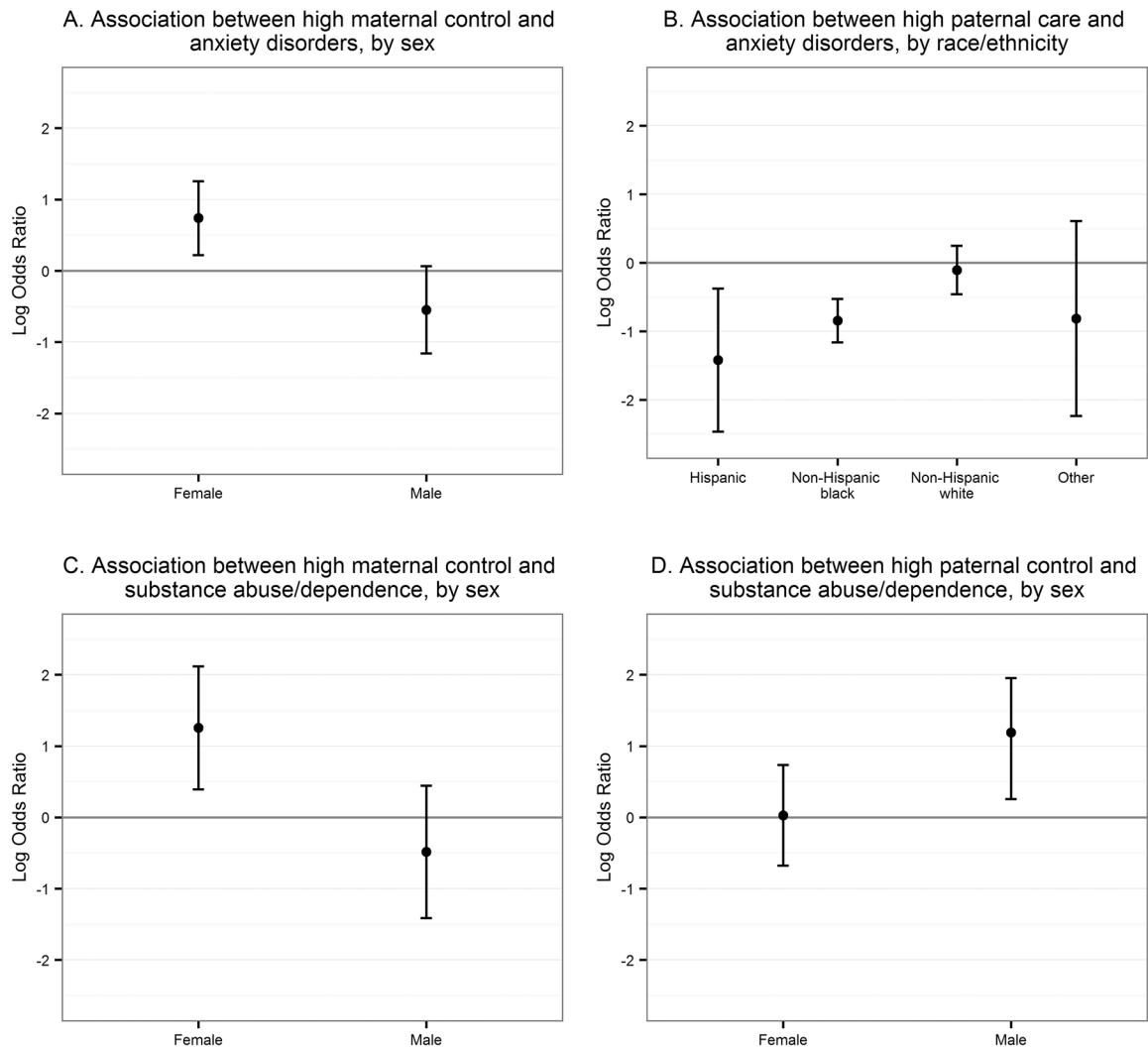


Figure 1. Group-specific associations of high parental care and control with anxiety disorders and substance abuse/dependence, by adolescent sex and race/ethnicity: National Comorbidity Survey-Adolescent Supplement, United States.

Table 1.

Proportions of high parental care and control by adolescent and household characteristics among adolescents aged 13–18 years in the National Comorbidity Survey-Adolescent Supplement, United States.

Correlates	Maternal		Paternal		Maternal		Paternal	
	High Care, % (SE)	<i>p</i> -value	High Control, % (SE)	<i>p</i> -value	High Care, % (SE)	<i>p</i> -value	High Control, % (SE)	<i>p</i> -value
Sex		.55		.40		.01		.01
Female	45.7 (1.3)		9.5 (1.1)		23.0 (1.0)		13.2 (1.3)	
Male	44.6 (1.2)		8.4 (0.7)		32.1 (1.6)		6.5 (0.7)	
Age		.19		.68		.08		.60
13–14	47.5 (1.7)		9.4 (1.2)		31.0 (1.6)		8.8 (1.2)	
15–16	43.7 (1.3)		8.4 (0.8)		26.8 (1.4)		10.0 (0.8)	
17–18	43.9 (1.6)		9.1 (1.3)		24.2 (2.2)		10.8 (1.7)	
Race/ethnicity		.04		.01		.32		.01
Hispanic	40.0 (2.9)		13.8 (2.7)		28.2 (2.6)		13.5 (1.6)	
NH Black	48.6 (2.1)		12.8 (1.2)		31.7 (3.0)		14.4 (1.6)	
Other	32.0 (4.5)		9.2 (2.4)		20.5 (4.7)		7.4 (2.4)	
NH White	46.5 (1.2)		6.9 (0.6)		27.4 (1.1)		8.2 (0.9)	
Parents' education		.02		.13		.67		.18
< HS	40.3 (2.3)		12.2 (2.2)		28.8 (4.0)		12.0 (2.2)	
HS grad	48.9 (1.9)		8.4 (0.7)		25.9 (1.6)		11.5 (1.3)	
Some college	45.4 (2.3)		11.0 (1.9)		28.6 (2.1)		9.3 (1.0)	
College grad	43.6 (1.3)		7.0 (1.2)		28.3 (1.2)		8.0 (1.0)	
Family income		.13		.01		.76		.01
PIR ≤1.5	49.2 (1.7)		11.9 (1.6)		28.0 (2.7)		13.9 (2.2)	
PIR ≤3	44.6 (2.4)		11.4 (1.1)		28.4 (2.6)		12.7 (1.4)	
PIR ≤6	44.6 (1.9)		7.9 (1.1)		28.6 (1.2)		8.6 (1.3)	
PIR >6	44.2 (1.6)		7.2 (1.3)		26.4 (1.7)		7.6 (0.9)	
A parent had a mental disorder		.11		.06		.03		.50
No	46.2 (1.1)		7.8 (0.7)		29.0 (1.3)		9.5 (0.9)	
Yes	42.6 (1.7)		11.3 (1.5)		24.9 (1.4)		10.4 (1.1)	
Any past-year stressful life event		.01		.06		< .01		.06
No	49.5 (1.4)		7.6 (0.8)		31.8 (1.5)		8.5 (1.1)	
Yes	42.0 (1.1)		9.9 (0.9)		24.8 (1.5)		10.6 (0.7)	
Any lifetime sexual violence		.07		.20		.55		.11
No	45.5 (0.9)		8.8 (0.6)		28.0 (1.1)		9.4 (0.7)	
Yes	37.7 (4.3)		10.6 (3.0)		22.0 (3.7)		15.8 (4.0)	
Household composition		.07		.01		.07		.74
Single mother	42.3 (3.0)		13.6 (2.0)		29.1 (1.2)		10.1 (4.6)	
Composite	44.7 (2.4)		11.1 (1.0)		22.6 (4.6)		10.5 (1.3)	

Correlates	Maternal		Paternal		Maternal		Paternal	
	High Care, % (SE)	<i>p</i> -value	High Control, % (SE)	<i>p</i> -value	High Care, % (SE)	<i>p</i> -value	High Control, % (SE)	<i>p</i> -value
Two biological parents	45.8 (1.2)		7.0 (0.6)		23.2 (1.8)		9.4 (0.9)	
Other	42.6 (5.7)		19.2 (6.4)		26.4 (3.7)		12.3 (2.8)	
Inter-parental conflict		.01		.11		.01		.11
None	52.5 (1.4)		8.3 (0.8)		36.5 (1.7)		8.7 (0.9)	
Minor	41.2 (1.8)		6.9 (1.0)		23.0 (1.3)		8.4 (1.0)	
Major	37.0 (1.7)		11.7 (1.7)		18.4 (1.6)		12.7 (1.6)	
Birth order		.08		.24		.49		.02
Oldest	47.1 (1.4)		8.8 (1.1)		29.0 (1.5)		9.7 (1.0)	
Youngest	46.2 (2.0)		7.6 (1.1)		27.5 (1.7)		7.7 (1.0)	
Others	41.9 (1.6)		10.1 (1.2)		26.4 (1.6)		11.6 (1.2)	
Number of siblings		.40		.02		.22		.73
1	48.2 (3.7)		8.6 (2.3)		30.7 (3.3)		9.0 (1.8)	
2	48.4 (2.6)		6.7 (0.8)		30.0 (1.6)		8.8 (1.6)	
3	43.8 (2.3)		7.7 (1.3)		28.0 (2.1)		9.4 (1.6)	
4+	43.2 (1.5)		11.5 (1.1)		25.5 (1.6)		10.9 (1.1)	
Average	43.7 (0.8)		8.4 (0.5)		27.6 (0.9)		10.2 (0.6)	

Note: SE = Standard Error; NH = Non-Hispanic; PIR = Poverty Index Ratio.

Table 2.

Unadjusted and adjusted associations between high parental care and control and 12-month mental disorders among adolescents aged 13–18 years in the National Comorbidity Survey-Adolescent Supplement, United States.

		MDD or Dys	BPI or II	GAD	AGP	Social Phobia	Specific Phobia	Panic	SAD	PTSD	Alcohol Abu/Dep	Drugs Abu/De	Eating	ADHD	CD or ODD
Odds Ratio (95% Confidence Intervals)															
Maternal															
Care	Unadj	0.48	0.77	0.59	1.42	0.68	0.77	1.12	1.18	0.83	0.66	0.48	0.35	0.80	0.38
	Adj	(0.33–0.69)	(0.44–1.36)	(0.19–1.77)	(0.73–2.79)	(0.45–1.04)	(0.62–0.95)	(0.59–2.14)	(0.57–2.45)	(0.48–1.45)	(0.45–0.96)	(0.30–0.76)	(0.18–0.68)	(0.55–1.14)	(0.28–0.51)
Control	Unadj	0.58	0.99	0.72	1.47	1.01	0.84	1.38	1.10	1.16	1.01	0.65	0.49	0.79	0.43
	Adj	(0.40–0.82)	(0.55–1.79)	(0.18–2.89)	(0.68–3.18)	(0.71–1.45)	(0.66–1.06)	(0.72–2.68)	(0.49–2.46)	(0.59–2.26)	(0.63–1.62)	(0.37–1.13)	(0.25–0.95)	(0.56–1.36)	(0.29–0.63)
Paternal	Unadj	2.83	1.53	1.79	1.52	2.41	1.16	1.78	4.17	2.25	1.09	2.13	6.53	1.48	2.66
	Adj	(1.68–4.77)	(0.66–3.52)	(0.46–6.95)	(0.75–3.07)	(0.99–5.85)	(0.71–1.88)	(0.83–3.81)	(2.07–8.39)	(1.20–4.24)	(0.45–2.66)	(0.88–5.19)	(1.98–21.6)	(0.95–2.30)	(1.90–3.74)
Care	Unadj	0.53	0.56	0.43	0.89	0.34	0.66	0.77	1.40	0.50	0.41	0.44	0.34	1.09	0.54
	Adj	(0.36–0.79)	(0.31–1.00)	(0.08–2.27)	(0.44–1.76)	(0.20–0.57)	(0.47–0.93)	(0.31–1.90)	(0.51–3.84)	(0.28–0.88)	(0.25–0.69)	(0.28–0.71)	(0.15–0.78)	(0.79–1.52)	(0.39–0.75)
Control	Unadj	1.38	1.55	0.55	3.88	1.22	1.65	1.02	1.99	1.41	1.83	1.39	2.34	0.43	0.85
	Adj	(0.77–2.46)	(0.73–3.29)	(0.12–2.41)	(1.42–10.6)	(0.58–2.57)	(1.14–2.37)	(0.28–3.72)	(1.12–3.54)	(0.63–3.16)	(1.06–3.14)	(0.69–2.78)	(0.70–7.84)	(0.23–0.79)	(0.58–1.23)

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Note: Unadj = unadjusted; Adj = adjusted; MDD or Dys = Major Depressive Disorder or Dysthymia; BPI or II = Bipolar I or II; GAD = Generalized Anxiety Disorder; AGP = Agoraphobia; SAD = Separation Anxiety Disorder; PTSD = Post-Traumatic Stress Disorder; Alcohol Abu/Dep = Alcohol abuse/dependence; Drugs Abu/Dep = Drug abuse/dependence; ADHD = Attention-Deficit/Hyperactivity Disorder; CD or ODD = Conduct Disorder or Oppositional Defiant Disorder. Odds ratios adjusted for socio-demographics, parental history of mental disorders, stressful life events, sexual violence, inter-parental conflict, and household composition. Boldface indicates $p < 0.05$.