Utility of Psychosocial Screening at a School-based Health Center

Published in final edited form as:
J Sch Health. 2000 September ; 70(7): 292–298.

Utility of Psychosocial Screening at a School-based Health Center

Gail Gall, MS, RN, CS,
Associate Director of Clinical Services for School Health Program, 1010 Mass Ave., Boston, MA 02118

Maria E. Pagano, EdM,
Doctoral Candidate, Dept. of Human Development, Northwestern University, Evanston, IL

M. Sheila Desmond, MD,
Medical Director, Chelsea High School Student Health Center, and Chief, Adolescent and Pediatric Medicine, Massachusetts General Hospital/Chelsea Health Care Center, Chelsea, MA

James M. Perrin, MD, and
Director, Ambulatory Care Programs and General Pediatrics, Dept. of Child Psychiatry, Massachusetts General Hospital/Associate Professor of Pediatrics, Harvard Medical School, Boston, MA

J. Michael Murphy, EdD
Staff Psychologist, Dept. of Child Psychiatry, Massachusetts General Hospital/Assistant Professor of Psychology, Harvard Medical School, Boston, MA

Abstract

School-based health centers (SBHC) have substantial potential to improve the recognition and treatment of adolescents' mental health problems. This study was undertaken as a quality improvement project to evaluate utility of the Pediatric Symptom Checklist when completed by youth (PSC-Y) among 383 adolescents seen at a SBHC, and the extent to which identification of psychosocial dysfunction and referral to mental health services improved academic functioning. Adolescents identified by the PSC-Y were significantly more likely to be insured by Medicaid, be a teen-age parent, and to have higher rates of absenteeism and tardiness in comparison to those not identified. Adolescents identified with the PSC-Y who were referred to mental health services significantly decreased their rates of absences and tardiness. Study results provide support for the utility of psychosocial screening and referral in the SBHC environment in facilitating recognition and treatment of adolescent mental health problems and improving student academic functioning.

Psychosocial dysfunction, recognized 20 years ago as the "new morbidity" in pediatric practice, now represents the leading cause of disability in childhood and adolescence.[1,2] Epidemiological research estimates that 14%-20% of American children have one or more psychiatric disorders in the moderate to severe range.[3,5] Poor and minority children face an even greater risk.[6-8] Numerous studies have shown that untreated mental health problems can develop into more severe psychosocial impairment as children move into adolescence, placing them at risk for school drop-out and increased use of health care service.[9,10] The federal government, the Bureau of Maternal and Child Health, the American Academy of Pediatrics, and the American Medical Association all set standards for early identification and treatment of childhood and adolescent mental disorders.[3]

<Ggall@aol.com>.

Despite the high prevalence of emotional and behavioral problems, and mandates from heath care and the federal government, only one-sixth to one-half of children and adolescents with psychosocial dysfunction are identified. Of these, only one-fifth receive mental health services.[2] Given these discouraging figures, at least some progress has been made with the development of screening questionnaires to increase identification of psychosocial dysfunction in children. The Pediatric Symptom Checklist (PSC) is a 35-item questionnaire designed to detect psychosocial problems in school-aged children.[11,12] Studies using the PSC in a broad range of pediatric settings and populations have shown that use of a brief, parent-completed screening measure greatly improves physician recognition of children's psychosocial problems.[13-15]

Traditionally, pediatricians have served as the primary resource for recognition of psychosocial problems in children and adolescents. However, adolescents see office-based clinicians less than any other age group, and they are least likely to make or keep appointments. Transportation difficulties, inability to make or keep appointments during regularly scheduled hours, concerns about confidentiality, and fear of judgment or insensitivity about issues of sexuality, substance abuse, or emotional distress also keep adolescents from using health care services. In addition, comprehensive mental health services for children and adolescents tend to be discouraged under managed care.[16-18]

In recent years, schools have assumed a major role in managing children's psychosocial problems. One epidemiological study showed that as many as 70%-80% of children receiving mental health services did so only at school, making the education system "the de facto system of care for youth with mental health problems."[19] Schools can increase access to mental health services for children and adolescents by offering these services through school-based health centers (SBHCs). Care given in SBHCs addresses specific needs of adolescents and includes primary, acute, and preventive health care, routine screening, mental health, reproductive counseling, and anticipatory guidance. SBHCs also help overcome barriers that limit access to mental health services including lack of health insurance, transportation difficulties, and insufficient attention to the particular needs of adolescents.[20] In addition, adolescents value the convenience of health care from SBHCs by familiar staff whom they trust.[21]

Schools offer ideal settings for large-scale screening of children and adolescents. Schools set standards for age-appropriate expectations for children, and they provide a longitudinal view of children's functioning in a normative, controlled setting. For older children and adolescents who may be asserting independence from parents and home and focusing more on peers and school activities, school-based screening may be especially important to identify troubled youth needing mental health services before disciplinary measures are required.

Originally designed for pediatric primary care, the Youth Pediatric Symptom Checklist (PSC-Y) has been shown to correlate highly with teachers' and guidance counselors' ratings of students' needs for services, academic failure, and PSCs completed by adolescent students.[22] One study in a low-income public school demonstrated concurrent validity of the PSC as completed by school-aged children with teacher, parent, and interviewer report measures of children's dysfunction.[23] The PSC-Y also identified students whose difficulties were previously unknown to school staff. These results suggest that the PSC completed by older children and adolescents may be a useful screening tool to identify students needing mental health services.

While studies provide validation of the PSC-Y, it remains unclear how the screening tool operates in real-world environments and whether identified psychosocial dysfunction

improves with mental health treatment. This study evaluated the utility of PSC-Y in facilitating recognition of adolescents with emotional and behavioral problems and the extent to which identification of psychosocial dysfunction and referral to mental health services at the SBHC improved student academic functioning. The study was reviewed by the Nursing Research Committee of the MGH Internal Review Board.

METHODS

Site and Sample

A SBHC of a public high school located in a small northeastern city with a large immigrant population was selected for the study. The SBHC averaged 1,000 visits per year, with 30%-50% of the student population enrolled in the SBHC at a given point in time. The public high school affiliated with the SBHC had an overall population of approximately 1,097 students in grades 9-12 with nearly equivalent numbers of boys (49%) and girls (51%). Most come from Hispanic backgrounds (62%), while 18% come from Caucasian backgrounds, 12% from Asian backgrounds, and 8% from African American backgrounds. Approximately 59% of the school's student population are eligible for reduced-price or free breakfasts.

Over four academic years from 1994-1997, all children aged 13-18 who enrolled at the SBHC were asked to complete a PSC-Y as a part of the registration process. Parental permission for all services and procedures at the SBHC was required. Each student's PSC-Y score was recorded in the medical record and made available to the nurse practitioner at each student's initial interview. Students with elevated PSC-Y scores who wanted additional services were referred for mental health services at the SBHC. Though many students registered in the fall of each year, no seasonal differences occurred in the administration of the PSC-Y or in mental health referrals.

Measures

Background Characteristics—Demographic information including age, grade, racial/ethnic background, gender, and history of mental health services was assessed on the PSC-Y form. In addition, students reported if they were pregnant or if they were a parent. Insurance status was determined through the SBHC enrollment database.

Youth Pediatric Symptom Checklist (PSC-Y)—Psychosocial functioning was assessed using the Youth Pediatric Symptom Checklist (Table 1). The PSC-Y was adapted from the PSC, a widely used and validated instrument using parents to help screen children's psychosocial dysfunction. The PSC-Y consists of 35 items rated as never, sometimes, or often present (scored 0, 1, and 2, respectively). Item scores are summed, and the total score is recoded into a dichotomous variable indicating psychosocial impairment. For children aged 6-16, the cutoff score is 30 or higher. The cutoff score was derived empirically using Receiver Operator Characteristic Analysis (ROC) in a previous study using the PSC-Y among predominantly low-income, minority youth in a school setting.[23] This study also demonstrated the convergent construct validity of the PSC-Y with teacher, parent, and youth reports of psychosocial dysfunction.[23]

Psychosocial Indicators—In addition to the PSC-Y, several items were included as psychosocial indicators. Adolescents completed the questions, "Do you have any emotional or behavioral problems for which you need help?" and "Do you want additional services for emotional or behavioral problems?" Similar single questions asking whether children had a problem for which they needed help or wanted services have been used in studies with low-income children.[8,24] Adolescents completed several other indicators of psychosocial

functioning which included: “Do you have problems getting into trouble?’ “Do you have a health problem?” “Do you have problems getting along with your parents?” and “Do you have problems getting along with other children?”

Academic Functioning—For each student who completed a PSC-Y, school records were checked for absences and tardies during the two months prior to completing the PSC-Y and during the two months after the screening. A few cases of adolescents who did not attend school for two months prior to the screen, or who did not have two months of attendance post screen, were not included in the analyses. In addition to checking school records of attendance, youth reports also were collected. Adolescents’ answers to a single question on the screening form, “Overall, how are your school grades?” (scored “excellent,” “very good,” “good,” “so-so,” or “poor”) were used to assess academic functioning.

Referral for Mental Health Services—Adolescents identified with psychosocial dysfunction on the PSC-Y who wanted additional services were referred for mental health services at the SBHC. Students who were identified but did not want mental health services were not referred.

Data Analysis

Between-group comparisons on categorical variables were conducted using the chi-square test. On the interval data, differences in means between the two groups were tested using analysis of variance (ANOVA). Statistical significance was defined as a two-tailed alpha of $p<.05$.

RESULTS

Background Characteristics

Of 404 students enrolled at the SBHC during the study period, 404 (100%) received parental permission to use SBHC services, and 383 (95%) agreed to complete the screening questionnaire. Background characteristics of the sample were similar to the high school student population. Ages ranged from 13-18 years (M=16.0, SD=2.1). Twenty-eight percent (106/383) were enrolled in 9th grade, 38% (146/383) in 10th grade, 25% (95/383) in 11th grade, and 9% (36/383) in 12th grade. More than two-thirds (74%; 283/383) were from Hispanic backgrounds, 17% (64/383) from Caucasian backgrounds, 5% (18/383) from African-American backgrounds, and 5% (18/383) from Asian-American backgrounds.

Slightly more than one-half of the sample were male (54%). Eleven percent (43/383) of the students reported a history of mental health services. Seven percent (25/383) reported they were single parents, similar to the rate of 8% of teen-age parenthood in the high school population. Thirty-three percent (99/383) were receiving Medicaid insurance at the time of screening. No significant differences existed between the cohorts of students across the study period of four years in terms of age, grade, racial background, gender, insurance status, or rates of teen-age pregnancy.

The mean PSC-Y score was 18.3 (SD=9.8), and 14% of adolescents (52/383) scored at or above the PSC-Y cutoff. Age, grade, and racial background were not significantly related to PSC-Y case/non-case classification (Table 2). In keeping with previous research suggesting the rate of internalizing disorders is greater for females than males during adolescence, females were significantly more likely to indicate clinically significant dysfunction than did males on the PSC-Y (18% vs. 10%; chi-square 2=5.7, df=l, $p<.05$). Students with a history of mental health services were significantly more likely to be identified by the PSC-Y (23%) than adolescents with no history of mental health services (12%; chi-square 2=3.87, df=1,

p<.05). Adolescents who were teen-aged parents were more than twice as likely to score positive on the PSC-Y than those who were not parents (40% vs. 12%; chi-square 2=15.9, df.=1, p<.001). Adolescents with Medicaid insurance status were five times more likely to score positive on the PSC-Y than those without Medicaid insurance (26% vs. 5%; chi-square 2=26.90, df=1, p<.0001).

Psychosocial Indicators

Ten percent (40/383) of the sample thought they had a problem with emotions or behavior for which they needed help (Table 3). Twelve percent (48/383) wanted additional mental health services for emotional or behavioral problems. Adolescents who reported having a psychosocial problem were significantly more likely to be PSC-Y cases than those who did not (47% vs. 10%; chi-square 2=60.51, df=1, p<.0001). Adolescents who wanted additional mental health services were significantly more likely to be PSC-Y cases than those who did not want mental health services (50% vs. 8%; chi-square 2=62.05, df=1, p<.0001).

Students responded to several items that assessed psychosocial functioning in specific problem areas: 12% (45/383) reported problems getting into trouble, 14% (53/383) reported having a health problem, 12% (45/383) reported problems with their parents, and 9% (33/383) reported problems getting along with other children. Students who had problems getting into trouble were significantly more likely to be cases on the PSC-Y (38% vs. 10%; chi-square 2=25.45, df=1, p<.0001). In comparison to students without health problems, students with health problems were significantly more likely to be cases on the PSC-Y (28% vs. 11%; chi-square 2=11.37, df=1, p<.001). Adolescents who reported problems getting along with their parents were significantly more likely to be cases on the PSC-Y than those who got along with their parents (36% vs. 11%; chi-square 2=20.99, df=1, p<.0001). Adolescents who reported problems getting along with peers were significantly more likely to be cases on the PSC-Y than those who did not report problems with peers (42% vs. 11%; chi-square 2=25.61, df=1, p<.0001).

Academic Functioning

Eleven percent (42/383) of students reported their school grades were excellent; 43% (163/383) reported their grades were good; 36% (138/383) reported their grades were fair; and 10% (40/383) reported their grades were poor (Table 4). Students with poor grades were significantly more likely to be cases on the PSC-Y (48%) than students with fair grades (17%), good grades (5%), or excellent grades (7%; chi-square 2=42.36, df=3, p<.0001).

Of the 383 students, 349 (91%) had attendance records two months prior to screen and two months post screen. Students were absent approximately one-half a day on average (M=.56, SD=1.22) two months prior to the screen and two months post screen (M=.56, SD=1.15). Students were tardy slightly more than one-half a day on average (M=.58, SD=1.32) two months prior to the screen, and more than two-thirds of a day two months post screen (M=.70, SD=1.45). When evaluating absentee and tardy rates two months prior to the screen, students identified with psychosocial dysfunction on the PSC-Y had more than three times the absentee rate (M=1.44 vs. M=.42; F=29.9, df=1, p<.0001) and tardy rate (M=1.62 vs. M=.43; F=34.65, df=1, p<.0001) than students not identified with psychosocial dysfunction. Two months post screen, students who were cases on the PSC-Y had more than double the absentee rate (1.24 vs. .46; F=19.00, df=1, p<.0001) and tardy rate (M=1.56 vs. M=.58; F=18.55, df=1, p<.0001) of students who were not cases on the PSC-Y.

Referrals and Changes in Academic Functioning

Students who were cases on the PSC-Y were significantly more likely to be referred for mental health services than those who were not cases (chi-square 2=163.6, df=1, p<.0001).

Eighty-one percent (42/52) of PSC-Y cases vs. only 8% (26/331) of non-cases were referred for mental health services, and nearly two-thirds (62%; 42/68) of those referred were PSC-Y cases. Adolescents referred for mental health services significantly decreased their absences by two-thirds of a day (M=−.68, SD= 1.82) while those not referred slightly increased their rates of absences (M=. 15, SD=.84; F=30.03, df=1, p<.0001). Similarly, adolescents who were referred decreased their rates of tardiness by approximately one-third of a day (M=−. 38, SD=1.73) in comparison to non-referred adolescents who slightly increased their rates of tardiness (M=.22, SD=.84; F=18.02, df=1, p<.0001) (Table 5).

DISCUSSION

Two questions should be asked in assessing clinical utility of the PSC-Y. First, does it identify adolescents with emotional or behavioral problems and, second, do identification and referral for mental health services lead to improved functioning? In this study, 14% of the sample scored above the PSC-Y cutoff, similar to prevalence rates found in previous studies of the PSC and PSC-Y.[11, 23] Adolescents identified with psychosocial dysfunction on the PSC-Y were significantly more likely to be female and to have higher rates of teen-age parenthood. Identified adolescents were significantly more likely to report emotional or behavioral problems warranting attention, including problems with getting into trouble, health, and getting along with parents or peers. Adolescents who were positive on the PSC-Y had significantly lower academic functioning as found in their lower self-reports of overall scholastic performance and in their higher rates of absences and tardiness confirmed from school records. The screening tool was accepted by students and easily used by staff who reported the quality of their referrals improved.

Results from the study corroborate the utility of psychosocial screening and referral in an SBHC environment. Identification with the PSC-Y and referral to mental health services resulted in improved attendance in school. Two months after the screen and referral, adolescents who were cases on the PSC-Y significantly decreased their absences by almost 50%, and significantly decreased their tardies by 25%. An increase in school attendance may be particularly important among Hispanic youth, who face the most vulnerability to high school drop-out among American students.[25]

Several conditions in the study contributed to the utility of psychosocial screening and referral in the SBHC. In the state where the study was conducted, a successful partnership between SBHC and managed care plans was formed, and adolescents identified and referred for mental health services received free care. Coordination between school-based providers and managed care entities is strongly encouraged by the Health Care Financial Administration (HCFA) to ensure that children receive services.[26] However, little coordination exists between SBHCs and health maintenance organizations,[27] resulting in additional barriers to care for adolescents insured through Medicaid when managed care organizations limit their access to SBHCs.

Recent changes in the health care environment have diminished SBHCs' fiscal viability, thereby hindering their objective to provide quality care for all, especially to vulnerable populations. Uninsured youth, accounting for 50%-60% of enrollees in many SBHCs,[28] may receive limited care because funding cannot be obtained. These children are likely to be Hispanic, given that 27% of Hispanic children lack health insurance compared to 15% of African American children and 13% of Caucasian children.[29]

Given the significant proportion of adolescents receiving Medicaid in the SBHC population,[21] and the current finding that these children were five times more likely to be identified and referred for mental health services at the SBHC, Medicaid managed care may

benefit from a collaboration with SBHCs. SBHCs can provide convenient, confidential services to populations whom managed care organizations find difficult to reach. In addition, psychosocial screening in the SBHC can help Medicaid managed care organizations fulfill EPSDT requirements. One study examining access and quality of care for adolescents showed the rates of screening and diagnoses of adolescents' mental health problems through Medicaid's EPSDT program are much lower than for younger children.[30] Barriers preventing endorsement of SBHC delivery of care by managed care organizations, including duplication of services and limitations to network providers, may be overcome if SBHCs can demonstrate EPSDT compliance for mental health morbidity. Results from this study suggest the PSC-Y was acceptable, feasible, and conducive as a psychosocial screen to identifying youth needing mental health services.

Several limitations affect findings from the study. First, the adolescents studied were predominantly Hispanic from low-income areas, and the prevalence rate for psychosocial dysfunction and effects of treatment may differ in other racial or ethnic groups from various income levels in other locations. Second, many of the psychosocial indicators were obtained by youth report, and thus subject to bias. However, school-based measures confirmed similar trends as the youth reports, suggesting that a bias, if present, was minimal. Future studies using multiple sources of measurement are warranted. Third, attendance and tardiness data were collected within a relatively brief period before and after the screening and referral for mental health services, and may not reflect long-term impact. While time-limited, the fact that the finding was robust across academic months and cohort years strongly suggests the effect was not due to seasonal or historical factors.

Findings from the study demonstrated utility of the PSC-Y in identifying emotional and behavioral problems in adolescents and the benefits of mental health referrals on academic functioning. Using a psychosocial screen such as the PSC-Y, school-based health center personnel can expect to identify adolescents with significant psychosocial problems more readily and use results from screening to improve follow-up, management, and referral to appropriate mental health services.

References

1. Costello EJ, Pantino T. The new morbidity: who should treat it? J Dev Behav Pediatr. 1987; 8:288–291. [PubMed: 3316286]
2. Costello EJ, Edelbrock C, Costello A. Psychopathology in pediatric primary care: the new hidden morbidity. Pediatrics. 1988; 82:415–424. [PubMed: 3405677]
3. Kelleher KJ, Wolraich ML. Diagnosing psychosocial problems. Pediatrics. 1996; 97:899–901. [PubMed: 8657535]
4. Brandenburg NA, Friedman RM, Silver SE. The epidemiology of childhood psychiatric disorders: prevalence findings for recent studies. J Am Acad Child Adolesc Psychiatry. 1990; 29:76–83. [PubMed: 2295582]
5. Schwartz-Gould M, Wunsch-Hitzig MA, Dohrenwend B. Estimating the prevalence of childhood psychopathology: a critical review. J Am Acad Child Psychiatry. 1981; 20:462–476. [PubMed: 7310017]
6. Bird HR, Canino G, Rubio-Stipec MA, et al. Estimates of the prevalence of childhood maladjustment in a community survey in Puerto Rico. The use of combined measures. Arch Gen Psychiatry. 1988; 45:1120–1126. [PubMed: 3264147]
7. Simonian SJ. Disadvantaged children and families in pediatric primary care settings: II. Screening for behavior disturbance. J Clin Child Psychiatry. 1991; 4:360–371.
8. Zahner GEP, Pawelkiewiez W, DeFrancesco JJ, Adnopoz J. Children's mental health service needs and utilization patterns in an urban community: an epidemiological assessment. J Am Acad Child Adolesc Psychiatry. 1992; 31:951–960. [PubMed: 1400130]

9. Stanger C, MacDonald VV, McConaughy SH, Achenbach TM. Predictors of cross-informant syndromes among children and youths referred for mental health services. J Abnorm Child Psychol. 1996; 24:597–614. [PubMed: 8956086]
10. Koot HM, Verhulst FC. Prediction of children's referral to mental health and special education services from earlier adjustment. J Child Psychol Psychiatry. 1992; 33:717–729. [PubMed: 1601945]
11. Jellinek MS, Murphy JM, Little M, Pagano ME, Comer DM, Kelleher KJ. Use of the Pediatric Symptom Checklist (PSC) to Screen for Psychosocial Problems in Pediatric Primary Care: A National Feasibility Study. J Ambulatory Care. In press.
12. Murphy JM, Reede J, Jellinek MS, Bishop S. Screening for psychosocial dysfunction in inner-city children: Further validation of the Pediatric Symptom Checklist. J Am Acad Child Adolesc Psychiatry. 1992; 31:221–232.
13. Jellinek MS, Murphy JM, Burns BJ. Brief psychosocial screening in outpatient pediatric practice. J Pediatr. 1986; 109:371–378. [PubMed: 3734977]
14. Bishop SJ, Murphy JM, Jellinek MS, Dusseault K. Psychosocial screening in pediatric practice: a survey of interested physicians. Clin Pediatr. 1991; 30:142–147.
15. Murphy JM, Ichinose C, Kingdon D, Hicks R, Jellinek MS, Feldman G, Jordon P. Screening for psychosocial problems during periodic EPSDT physical examinations; Preliminary results from a Mexican-American sample. J Pediatr. 1996; 129:864–869. [PubMed: 8969728]
16. Jellinek MS, Nurcombe B. Two wrongs don't make a right. Managed care, mental health, and the marketplace. JAMA. 1993; 13:1737–1739. [PubMed: 8411506]
17. Jellinek M, Little M. Supporting child psychiatric services using current managed care approaches: you can't get there from here. Arch Pediatr Adolesc Med. 1998; 152:321–326. [PubMed: 9559705]
18. Norquis G, Wells K. Mental health needs of the uninsured. Arch Gen Psychiatry. 1991; 48:475–478. [PubMed: 2021301]
19. Burns BJ, Costello EJ, Angold A, et al. Children's mental health service use across service sectors. Health Affiliation. 1995; 14:147–159.
20. Health Care Reform. School-based Health Centers can Promote Access to Care. US Government Accounting Office; Washington, DC: 1994. GAO publication no. GA/HEHS 94-166
21. Brindis C, Kapphahn C, McCarter V, Wolfe AL. The impact of health insurance status on adolescents' utilization of school-based clinic services: implications for health care reform. J Adolesc Health. 1995; 16:18–25. [PubMed: 7742332]
22. Murphy JM, Jellinek MJ, Milinsky S. The Pediatric Symptom Checklist: validation in the real world of middle school. J Pediatr Psychol. 1989; 14:629–639. [PubMed: 2607398]
23. Pagano ME, Cassidy L, et al. Identifying school-age children at risk: The Pediatric Symptom Checklist as a self-report measure. Psychology in the Schools. In press.
24. Bird HR, Gould MS, Rubio-Stipec MA, Staghezza BM, Canino G. Screening for childhood psychopathology in the community using the Child Behavior Checklist. J Am Acad Child Adolesc Psychiatry. 1991; 30:116–123. [PubMed: 2005046]
25. Moore, J.; Pachon, H. Hispanics in the United States. Prentice-Hall; Englewood Cliffs, NJ: 1985.
26. Health Care Financing Administration. Medicaid and school health: a technical assistance guide. US Dept of Health and Human Services; August. 1997
27. Dept of Health and Human Services. DHHS Office of the Inspector General. School Based Health Centers and Managed Care. December. 1993 OEI-05-92-00680
28. Hacker K. Integrating school-based health centers into managed care in Massachusetts. J Sch Health. 1996; 66:317–321. [PubMed: 8959590]
29. Guiden M. School-based health centers and managed care. State Legislative Report. 1998; 23:1–12.
30. English A. Early and periodic screening, diagnosis, and treatment program (EPSDT): a model for improving adolescents' access to health care. J Adolesc Health. 1993; 14:524–526. [PubMed: 8312286]

Table 1

Youth Pediatric Symptom Checklist (PSC-Y)

Please mark under the heading that best fits you	Never	Sometimes	Often
1. Complain of aches or pains	—	—	—
2. Spend more time alone	—	—	—
3. Tire easily, little energy	—	—	—
4. Fidgety, unable to sit still	—	—	—
5. Have trouble with teacher	—	—	—
6. Less interested in school	—	—	—
7. Act as if driven by motor	—	—	—
8. Daydream too much	—	—	—
9. Distract easily	—	—	—
10. Are afraid of new situations	—	—	—
11. Feel sad, unhappy	—	—	—
12. Are irritable, angry	—	—	—
13. Feel hopeless	—	—	—
14. Have trouble concentrating	—	—	—
15. Less interested in friends	—	—	—
16. Fight with other children	—	—	—
17. Absent from school	—	—	—
18. School grades dropping	—	—	—
19. Down on yourself	—	—	—
20. Visit doctor with doctor finding nothing wrong	—	—	—
21. Have trouble sleeping	—	—	—
22. Worry a lot	—	—	—
23. Want to be with parent more than before	—	—	—
24. Feel that you are bad	—	—	—
25. Take unnecessary risks	—	—	—
26. Get hurt frequently	—	—	—
27. Seem to be having less fun	—	—	—
28. Act younger than children your age	—	—	—
29. Do not listen to rules	—	—	—
30. Do not show feelings	—	—	—
31. Do not understand other people’s feelings	—	—	—
32. Tease others	—	—	—
33. Blame others for your troubles	—	—	—
34. Take things that do not belong to you	—	—	—
35. Refuse to share	—	—	—

Table 2

Background Characteristics and PSC-Y Scores

		Total		Y-PSC non case (<30)		Y-PSC case (30+)	
Variables		**N**	**%**	**N**	**%**	**N**	**%**
		383	**100**	**331**	**86**	**52**	**14**
Grade	9th	106	28	91	86	15	14
	10th	146	38	127	87	19	13
	11th	95	25	84	88	11	12
	12th	36	9	29	81	7	19
Race	Hispanic	283	74	239	85	44	16
	White	64	17	59	92	5	8
	Black	18	5	17	94	1	6
	Asian	18	5	16	89	2	11
Gender	Male	206	54	186	90	20	10
	Female	177	46	145	82	32	18*
Past mental health services	No	340	89	298	88	42	12
	Yes	43	11	33	77	10	23*
Teenage parent	No	358	93	316	88	42	12
	Yes	25	7	15	60	10	40****
Medicaid	No	203	67	192	95	11	5
	Yes	99	33	73	74	26	26****

*P<.05,

****P<.0001

Table 3

Psychosocial Indicators and PSC-Y Scores

		Total		Y-PSC non case (<30)		Y-PSC case (30+)	
Variables		**N 383**	**% 100**	**N 331**	**% 86**	**N 52**	**% 14**
Have emotional or behavioral problem	No	343	90	310	90	33	10
	Yes	40	10	21	53	19	47****
Want services	No	335	88	307	92	28	8
	Yes	48	12	24	50	24	50****
Gets into trouble	No	338	88	303	90	35	10
	Yes	45	12	28	62	17	38****
Health problem	No	330	86	293	89	37	11
	Yes	53	14	38	72	15	28***
Problem with parents	No	338	88	302	89	36	11
	Yes	45	12	29	64	16	36****
Problem with other children	No	350	91	312	89	38	11
	Yes	33	9	19	58	14	42****

*** P<.001,

**** P<.0001

Table 4

Academic Functioning and PSC-Y Scores

Variables		Total		Y-PSC non case (<30)		Y-PSC case (30+)	
		N	**%**	**N**	**%**	**N**	**%**
		349	**100**	**304**	**87**	**45**	**13**
School grades							
	Excellent	42	11	39	93	3	7
	Good	163	43	155	95	8	5
	Fair	138	36	114	83	24	17
	Poor	40	10	23	52	17	48****
		Mean (SD)		**Mean (SD)**		**Mean (SD)**	
Pre Absenteeism		.56 (1.22)		.42 (1.16)		1.44 (1.25)****	
Pre Tardiness		.58 (1.32)		.43 (1.22)		1.62 (1.53)****	
Post Absenteeism		.56 (1.15)		.46 (1.08)		1.24 (1.40)****	
Post Tardiness		.70 (1.45)		.58 (1.36)		1.56 (1.79)****	

**** P<.0001

Table 5

Referrals for Mental Health and Change in Academic Functioning Indicators

Variables	No Referral Mean (SD)	Referral Mean (SD)	
Absentee change	.15 (.84)	−.68 (1.82)	****
Tardy change	.22 (.84)	−.38 (1.73)	****

**** P<.0001