Title

Connecting students to mental health care: pilot findings from an engagement program for school nurses

Permalink

Journal

ISSN

Authors

Kim, Rachel E
Becker, Kimberly D
Stephan, Sharon H
et al.

Publication Date

DOI

Peer reviewed

Connecting Students to Mental Health Care: Pilot Findings from an Engagement Program for School Nurses

Rachel E. Kim, MA[1], **Kimberly D. Becker, PhD**[2], **Sharon H. Stephan, PhD**[2], **Serop Hakimian, RN, MS**[3], **Dee Apocada, RN, MA**[3], **Pia V. Escudero, LCSW**[3], and **Bruce F. Chorpita, PhD**[1]

[1]University of California, Los Angeles

[2]University of Maryland School of Medicine

[3]Los Angeles Unified School District

Abstract

Schools function as the major provider of mental health services (MHS) for youth, but can struggle with engaging them in services. School nurses are well-positioned to facilitate referrals for MHS. This pilot study examined the feasibility, acceptability, and preliminary efficacy of an engagement protocol (EP) designed to enhance school nurses' utilization of evidence-based engagement practices when referring youth to MHS. Participants were six school nurses and twenty-five adolescents in a large, urban school district. School nurses reported positive attitudes towards the EP, suggesting that they found it feasible and acceptable. Though there were small increases in school nurses' use of engagement practices and in adolescents' readiness for services following training, due to limited sample size, differences were not statistically significant. Still, pilot results suggest preliminary efficacy of training school nurses to strategically implement evidence-based engagement practices to increase adolescents' engagement in MHS.

Keywords

treatment engagement; school nurse; school mental health

Approximately 20 to 40% of youths have a psychiatric disorder or mental health need (Costello, Copeland, & Angold, 2011). Schools serve as a major point of entry into the system of mental health care with approximately 60% of youths who receive mental health services (MHS) entering through schools, compared with 27% who initiate care in specialty mental health settings (Farmer, Burns, Phillips, Angold, & Costello, 2003). In addition to functioning as a major point of entry, schools are also the major site for the provision of MHS (Burns et al., 1995).

As a gateway to and setting for MHS, schools offer many advantages over specialty mental health clinics. One significant advantage is their unparalleled access to youth that promotes early identification and treatment (Adelman & Taylor, 1999; President's New Freedom

Corresponding Author: Rachel E. Kim, MA Department of Psychology 1285 Franz Hall University of California, Los Angeles Los Angeles, CA 90095 r.kim@ucla.edu.

Commission, 2003; Weist, 1997). School personnel can be trained to effectively identify the signs and symptoms of mental health concerns, particularly those that manifest as poor or declining academic performance or problems with peer interactions, which may facilitate the referral process to MHS (Adelman & Taylor, 1991; Masia-Warner et al., 2005; Severson & Walker, 2002). Furthermore, mandatory school attendance may mitigate practical barriers to services, such as transportation and scheduling burdens, and the naturalistic setting of school-based MHS may lessen psychological barriers, such as mental health stigma (Catron, Harris, & Weiss, 1998; Catron & Weiss, 1994; Stephan, Weist, Kataoka, Adelsheim, & Mills, 2007; Weist, 1999). Beyond the advantage of access, providers in schools have the opportunity to work with students in their natural, social environment, and therefore may be more able to intervene when problems arise and to teach skills in a more generalizable manner than their community-based counterparts (Masia, Klein, Storch, & Corda, 2001). In sum, the unique features of schools offer an unmatched opportunity to provide accessible and effective MHS to students.

Despite the prominent role of schools as both a point of entry and a site of service, youth mental health needs remain largely unmet (Merikangas et al., 2011). Rates of school MHS utilization, particularly for adolescents, are relatively low compared to need. A recent study found that of 142 adolescents referred to school MHS, only 85 adolescents (59.8%) attended their first appointment (Guo, Kataoka, Bear, & Lau, 2014). This rate is comparable to adolescents' service utilization in specialty mental health settings, where one would expect rates to be lower due to geographic, transportation, and scheduling barriers. In studies of adolescents' help-seeking behaviors and attitudes toward MHS, adolescents identified stigma of mental health and privacy concerns (e.g., fear of being teased or gossiped about by peers) as major barriers to seeking MHS (Lindsey, Chambers, Pohle, Beall, & Lucksted, 2013; Thompson et al., 2013). Adolescents also expressed some hesitation about whether MHS would be useful and were generally uncertain of what to expect from services (Thompson et al., 2013). Additionally, adolescents noted difficulty verbalizing emotions and a reliance on others (e.g., caregivers, school personnel) to identify mental health issues (Lindsey et al., 2013). These challenges highlight the need for strategies to effectively engage adolescents in MHS.

School nurses are well-positioned to address difficulties engaging adolescents in school- and community-based MHS, and to serve as a liaison between youth with mental health concerns and specialty mental health providers. Notably, youths report school nurses being more approachable than other school personnel (Davis, 2008). Students who visit school nurses often report psychosocial reasons for their visits, such as stress and depression (Schneider, Friedman, & Fisher, 1995). Relatedly, students with disproportionately more frequent visits than their peers are more likely to experience mental health problems, including depression and anxiety (Campo et al., 2004; Shannon, Bergren, & Matthews, 2010). School nurses often become familiar with students' pattern of health office visits (Puskar & Bernardo, 2007), and can serve as a liaison between students, teachers, parents, and mental health providers (Stevenson, 2010). Despite their potential to facilitate MHS for students, nurses report limited self-efficacy and competence in effectively identifying and addressing mental health problems among students (Stephan & Connors, 2013).

A growing body of literature has identified a number of effective strategies used by mental health providers to engage youth in services. A recent quantitative review of the children's mental health literature by Becker et al. (2015) identified practices that were associated with enhanced treatment engagement (i.e., treatment attitudes, attendance, and participation). Specifically, *assessment* (e.g., information gathering about youth's strengths and needs), *psychoeducation about services* (e.g., reviewing information about MHS service delivery such as session frequency), *modeling* (e.g., demonstrating a desired behavior to youth), and *setting positive expectations* (e.g., instilling hope) were frequently used in interventions that improved early attitudes about participating in treatment. Practices such as *assessment, accessibility promotion* (e.g., making services more convenient and accessible), *psychoeducation about services*, and *asking about barriers to treatment* (e.g., discussing what factors may prohibit youth from engaging in MHS) were the most common engagement practices in engagement interventions with significantly higher attendance outcomes. *Assessment, accessibility promotion*, and *homework assignment* were most common to interventions that demonstrated increased treatment adherence and in-session participation. Taken together, these findings suggest that a selection of such practices has the potential to improve early attitudes towards MHS, as well as attendance at and participation in services over time.

To date, little research has been done to provide school nurses with effective treatment engagement tools that can facilitate their roles as ambassadors to MHS. A notable exception is a 2010 survey of school nurses which found that despite school nurses' comfort identifying mental health problems areas, they reported limited comfort in providing mental health intervention and pre-service training to identify, assess, make referrals and provide intervention for mental health concerns (Stephan & Connors, 2013). Thus, the purpose of the current study was to examine the 1) feasibility and acceptability, and 2) preliminary efficacy of a pilot program increasing school nurses' utilization of evidence-based engagement practice elements developed from the Becker et al. (2015) review in referring youth to school- and community-based MHS, specifically psychoeducation about the problem and services, assessment of barriers to services, problem solving those barrier, setting positive expectations for services, eliciting change talk to address problem, planning for referral, and following up with the student. Some practice elements (e.g., psychoeducation about services, assessment of barriers, setting positive expectations) were chosen because of their demonstrated effectiveness on various engagement outcomes (e.g., early attitudes towards participating in treatment, attendance) in the Becker et al. (2015) review. Psychoeducation about the problem was added to help youth understand the connection between their symptoms with potential mental health concerns. Psychoeducation about the problem is a standard practice in many evidence-based interventions for a variety of mental health concerns (e.g., Coping Cat; PASCET; Trauma-Focused CBT). Eliciting change talk, or inquiring about the advantages and disadvantages about the status quo and change in order to increase motivation, has demonstrated effectiveness in increasing engagement (e.g., Snell-Johns, Mendez, & Smith, 2004). Problem solving barriers is to be used in conjunction with assessment of barriers in order to aid youth in finding solutions to overcome barriers. Planning for referral and following up with the youth were included to provide youth with logistical support to the youth and assess need for additional support

with referral process after plan had been made. School nurses were trained in these eight engagement practices in order to facilitate referral to MHS when youth presenting with mental health concerns to their offices. Feasibility and acceptability were conceptualized as school nurses' intent to utilize practices taught in the training, perceived benefit of practices taught in training, overall satisfaction with training, and perceived barriers to implementing practices taught in training, measured quantitatively in the form of a training evaluation and qualitatively through a focus group. Preliminary efficacy was measured through changes in school nurses' and youths' reports of the school nurses' utilization of the engagement practices in addition to their perceptions of the youths' readiness for services from baseline to post-training. Given the pilot nature of this study, we did not propose a priori hypotheses. In implementing this pilot program consisting of evidence-based engagement practice elements, we hoped to address the gap in the literature as to how the integral role of school nurses in schools might be capitalized upon to increase youth engagement in MHS.

Method

All study procedures were approved by the IRB at the University of California, Los Angeles, and the Committee of External Research Review in the Office of Data and Accountability of the Los Angeles Unified School District (LAUSD). School nurses and youth participants gave consent/assent to participate in the study.

Setting

This study was conducted in 6 high schools in LAUSD with collaboration from the Nursing and School Mental Health Divisions. The school district serves approximately 664,000 youth from kindergarten to twelfth grade. Approximately 152,500 students attend grades 9 through 12 in 94 senior high schools. LAUSD students are primarily racial/ethnic minorities (90.94%) and majority Latino (73.4%) (Los Angeles Unified School District, 2012). An estimated 70% of LAUSD students are enrolled in the voluntary free lunch program, an indicator of household income, which necessitates an annual household income below 133% of the federal poverty level (Los Angeles Unified School District Strategic Plan, 2009). LAUSD provides a unique opportunity to reach a large, traditionally underserved, and highly impoverished population. The six high schools were selected on the basis of having nursing staff available on-site at least one day per week and for having dedicated school mental health personnel on campus.

Participants

School nurses—Six school nurses working in the selected high schools were recruited for the study. All school nurses (one male, five female) were of Filipino descent ($M_{age} = 55.67$ years, $SD = 5.13$ years). School nurses were registered nurses licensed in the state of California. All had obtained at least a Bachelor of Science degree in nursing and specializations in school nursing. School nurses averaged 12.67 years of professional experience ($SD = 7.00$).

Youth participants—Youth ($N = 25$) were high school students who were identified by school nurses for suspected mental health need and lack of current service utilization. They

had not been previously referred to MHS by the school nurse. Due to possible concerns related to pregnancy, substance abuse, or other sensitive issues that youth might not wish to disclose to their parents, we received a waiver of parental permission in order to maintain their privacy. Therefore, no other demographic information was obtained. As school personnel, school nurses were instructed to comply with mandatory reporting laws should instances of reportable safety concerns occur. No safety concerns were reported during the study.

Measures

Given the absence of established instruments designed to measure the constructs of interest in this study, all measures used were developed by the study team for the purpose of the current study.

School nurse background questionnaire—The school nurse background questionnaire inquires about basic demographic information, training background, and experience with students presenting with mental health concerns. Additionally, school nurses reported their baseline level of comfort identifying mental health needs, discussing mental health concerns, and making mental health referrals. The three items referring to level of comfort are measured on a five-point Likert-type scale ranging from 1 (*not at all comfortable*) to 5 (*very comfortable*).

Knowledge of evidence-based engagement practices—The engagement practice knowledge test was designed to measure school nurses' knowledge of the purpose of eight evidence-based strategies for engaging youth in MHS. Using a bank of 16 practices, school nurses matched the appropriate engagement practice to eight brief hypothetical vignettes of students presenting with various engagement issues.

Feasibility and acceptability of training and EP—The training evaluation consists of 23 items: 14 measuring utility and acceptability of training, intent to utilize practices taught in the training, perceived benefit of practices taught in training, and overall satisfaction with training, as well as eight items assessing barriers to implementing practices taught in training. Items are measured on a five-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores on the satisfaction domain range from 14 (*low satisfaction*) to 70 (*high satisfaction*) and those on the barriers domain range from 8 (*few barriers*) to 40 (*many barriers*).

Utilization of engagement practices—School nurses and youths responded to nine items in a yes/no format related to school nurses' use of specific engagement practices (e.g., assessing barriers to services) when referring youth to MHS; Table 1).

Youth readiness for services—School nurses and youths responded to four items regarding the youth's readiness for services (e.g., perceived need for MHS, intent to enroll in MHS, treatment expectations, and therapeutic alliance). These items are measured on a five-point Likert-type scale ranging from 1 (*not at all*) to 5 (*very*).

School nurse focus group—School nurses participated in a one-hour, audio- and video-recorded focus group to assess their impressions of the 1) challenges they face in referring youths to MHS, 2) feasibility, acceptability, and utility of the EP and training, 3) suggestions for strategies to better connect with youths regarding mental health concerns, 4) suggestions for improving the EP and training. The focus group transcription was analyzed for themes relating to topics stated above.

Engagement Protocol (EP)

The EP consists of seven engagement practices associated with improved treatment engagement (Becker et al., 2013). Table 2 details practices, lay names used in the EP, and definitions. Practices are organized into a flowchart that guides school nurses' decision-making to coordinate utilization of the practices at appropriate times (Figure 1; cf. Chorpita, Daleiden, & Weisz, 2005). School nurses were also provided with a two-page guide for each practice that included the goal of each practice, step-by-step instructions for use, and sample scripts.

Procedures

Wave I—Wave I of the study assessed each nurse's baseline utilization of each engagement practice when referring two youths to either school- or community-based MHS. After recommending MHS to each youth and obtaining his or her assent to participate in the study, both the school nurse and youth completed the Engagement Checklist. A total of 12 youths participated in Wave I data collection.

Training in EP—Upon completion of Wave I baseline data collection, school nurses participated in a four-hour training in the EP led by two clinical psychologists and a doctoral student in clinical psychology. Training consisted of didactic and skill-building components. Didactics were employed to review the importance of engaging youth in MHS, the connection between mental health and physical health, and school nurses' role in increasing youths' engagement in MHS. The skill-building component consisted of introduction to the purpose of each engagement practice, activities, and role-play opportunities to allow school nurses to practice utilizing the engagement practices. Trainers also encouraged school nurses to discuss skills they already use to discuss mental health concerns with and make mental health referrals for students. School nurses completed the engagement practice knowledge test before and after the training. School nurses also completed the training evaluation following the training.

Wave II—Follow training in the EP, the majority of school nurses referred two youths to school MHS and one nurse recruited three youths (*n* = 13 youths in Wave II). School nurses and youth completed the engagement checklist to report school nurses' utilization of engagement practices following the training.

Focus group—School nurses participated in the focus group after data collection ended.

Results

Independent samples *t*-tests were conducted to examine effects of training on knowledge of evidence-based engagement practices and youths' readiness for services. Correlations were done to assess reliability between school nurses' and youths' perception of youths' readiness for services. Chi-square tests were used to examine change in utilization of engagement practices following the training.

School Nurse Background Questionnaire

School nurses reported visits with between 25 and 200 students per week ($M = 86.67$, $SD = 65.70$). School nurses with lower caseloads spent approximately 21 to 30 minutes with each student, whereas school nurses with higher caseloads spent about 5 to 10 minutes with each. On average, school nurses reported making two to three mental health referrals per week. However, school nurses also indicated being aware of relatively low follow-through by students with regard to mental health referrals. School nurses expressed feeling fairly comfortable identifying mental health issues in students ($M = 4.00$, $SD = 1.00$), talking about mental health issues with students ($M = 4.00$, $SD = 1.00$), and referring students for MHS ($M = 4.00$, $SD = 1.00$).

Knowledge of Evidence-Based Engagement Practices

Following training, school nurses correctly identified an average of 4 out of 8 practices correctly ($SD = 2.12$), compared with approximately 2.17 practices ($SD = 1.17$) at pre-training, however, these changes were not statistically significant. Four of six school nurses' scores improved from pre- to post-training and two remained the same.

Feasibility and Acceptability of Training

School nurses reported high satisfaction overall with the training format, training materials, and engagement practices presented ($M = 65.71$, $SD = 4.79$, range: 56 – 70). School nurses also endorsed few anticipated barriers to implementing the engagement practices following the training ($M = 19$, $SD = 9.53$, range: 10 – 30). The greatest perceived barrier was the potential lack of time to utilize practices.

Utilization of Engagement Practices by School Nurses

School nurses' utilization of engagement practices per school nurse self-report and corresponding youth report is shown in Table 4. At baseline, school nurses reported most frequently providing psychoeducation about the problem (100%), psychoeducation about services (93.75%), and instilled optimism in helpfulness of services (92%). School nurses also frequently asked if youths thought school MHS might be helpful (92%), but did not assess specific barriers to following through with referral as frequently (67%). School nurses even less frequently engaged youths in developing solutions for potential barriers (33%). Youths generally provided a more conservative report of school nurses' utilization of engagement practices. However, youths reported that school nurses did help develop solutions for potential barriers (75%), despite asking about barriers only about half the time.

When school nurses and youths indicated that utilization of an engagement practice was indicated to be high at baseline, use of that practice continued to remain high following training. However, with regard to finding solutions for potential barriers to seeking MHS, the practice that was reported by school nurses to occur most infrequently at Wave I, school nurses reported an increase in usage , 33% at Wave I versus 92% at Wave II (X^2 (1) = 9.42, p = .002) (Table 4).

Youth Readiness for Services

Table 3 presents youths' and corresponding school nurses' reports of the youth's readiness for MHS, organized relative to the nurses' participation in the engagement training (i.e., Wave I: before training; Wave II: after training). At baseline, youths reported generally liking the school nurse and feeling moderately hopeful that school MHS could be helpful. However, their beliefs that presenting problems were linked to mental health and the likelihood of talking with a mental health provider were low. School nurses shared similar views on youths' readiness for services in regards to the youths' 1) affinity for the nurse, 2) belief that school MHS would be helpful, and 3) intention to speak with a mental health professional. However, compared to youths themselves, school nurses perceived that youths believed more strongly that presenting concerns needed MHS (t(11) = −2.69, p = 0.21). Still, school nurses' endorsement of youths' perceived need was moderate.

Youths who completed the survey as part of Wave II following the engagement training had higher mean ratings than youths in Wave I across for three readiness for services items: how much they liked the school nurse, degree of hope about the helpfulness of services, and their perceived need for MHS (Table 3). However, ratings between Wave I and Wave II reports were not significantly different. Moreover, despite moderate perception of need of and hopefulness in MHS, youths' intention to seek MHS was similarly low as reported by youths in Wave I. As at Wave I, youths had a strong affinity for school nurses. School nurses held similar perceptions of youths' belief in need for MHS, though were slightly less positive about youths' hopefulness about utility of services than the youths themselves and their own report at Wave I. At Wave II, school nurses held more positive, though moderate, attitudes about youths' likelihood to seek MHS than at Wave I. They were also more positive than youths' at Wave II. However, these differences were also not statistically significant.

There was insufficient power to detect significant correlations between school nurses' report and youths' report of readiness for services across waves, but we are presenting the three largest correlations for descriptive purposes. Correlations were variable across the four items and between the two waves. School nurses' and youths' were most strongly positively correlated on perception of need for MHS for presenting concern (r = .37, p = .083), followed by affinity for the school nurse (r = .36, p = .14). There were minimal correlations between school nurses' and youths' perception of likelihood to seek MHS (r = .12, p = .58) and hopefulness in helpfulness of school MHS (r = .05, p = .83).

Focus Group

Challenges to referring youths to MHS—The school nurses noted logistical barriers as the greatest challenge to referring youths to MHS. Logistical barriers included a lack of

time to thoroughly discuss mental health issues with students, interruptions during office visits with students, lack of knowledge about school MHS (e.g., location, poor visibility of school mental health staff), lack of school staff to address mental health issues, and difficulty identifying youths in need of MHS. Additional barriers faced by youths, as reported by school nurses, included poor insight from youths regarding their mental health issue, stigma around mental health and its services, lack of knowledge about mental health and related services, negative prior experiences with MHS, and low rapport with mental health staff when referred.

Feasibility, acceptability, and utility of the EP and training—Overall, school nurses held positive views regarding the EP itself. Particularly, they reported that the practices, such as providing psychoeducation about the mental health problem, assessing and addressing barriers to referral, and encouraging youths to take small steps towards a desired goal, were helpful. Moreover, the school nurses liked the two-page handouts explaining how to do each engagement practice (i.e., engagement guides) and the flowchart to guide decision-making. However, school nurses reported challenges to implementing the engagement practices, including lack of time, a lack of information about whether or not youths followed through with referrals, and a lack of familiarity and trust with a particular mental health agency to which to refer youths. One school nurse also indicated that there was some resistance from a youth's parent regarding school nurses' involvement in mental health.

In terms of the training, school nurses expressed feeling more confident in discussing mental health concerns with youths following the training. However, all school nurses felt that a four-hour training was insufficient to fully develop mastery of the engagement practices. The school nurses provided suggestions for improving the training, including expanding it to a full-day training, including more role-plays and practice scenarios, and consultation opportunities over time. One final recommendation for the training was to include other school staff to increase collaboration in identifying and attending to youths' mental health needs.

Strategies to better connect with youths regarding mental health concerns—In addition to evaluating the EP and training, the school nurses proposed additional strategies to address mental health needs of youths. School nurses noted a need to increase overall mental health awareness in schools, such as by posting posters of common mental health issues in schools. The school nurses also recommended tools to facilitate the referral process (e.g., measure to identify mental health concerns, information sheet about what to expect from MHS). Moreover, school nurses again stressed the importance of collaboration between various school personnel, including mental health staff, beyond participating in the training together.

Discussion

The goal of this study was to evaluate the feasibility, acceptability, and preliminary efficacy of a training to enhance the strategies used by school nurses to engage youth in MHS. Overall, school nurses held positive attitudes towards the EP and the training, suggesting

that training school nurses in engagement strategies is a feasible and acceptable approach to enhancing the treatment engagement of high school students.

The effectiveness of the training and EP cannot be definitively evaluated, due to the small sample size. However, these preliminary findings point to important patterns and offer hypotheses for future research. For example, knowledge of engagement practices using a paper and pencil vignette questionnaire suggested that knowledge increased for most school nurses, suggesting that the training format was appropriate. However, school nurses only correctly identified an average of 50% of the practices following the training. This relatively low identification post-training converges with data collected from the focus group about the importance of a longer and more thorough training that includes more opportunities for rehearsal in future studies. It might also be important to examine the responses to individual items on the knowledge test to determine the difficulty of the items and ultimately improve the test's ability to measure knowledge. Additionally, there were small increases in school nurses' utilization of evidence-based engagement practices, both as reported by school nurses and youth. The increase was most pronounced for one practice, attempting to aid the youth in finding a solution to barriers to treatment, which occurred at a low frequency initially, implying that the training filled some gap in knowledge. The minimal increases in other practices may be due to a ceiling effect (such that nurses maintained already high levels of practice) or possible over-reporting practice use at baseline. The minimal increase might also reflect difficulties to implement engagement practices. As suggested in the focus group, future studies might include ongoing consultation to support nurse implementation of the EP.

Similarly, youths' self-reported readiness for services was generally higher for Wave II youth than Wave I youth, hinting at the utility of the EP. One goal of the EP is to help nurses improve their assessment of a youth's readiness for services. Three out of four of the school nurses' ratings of youth readiness showed slight decreases from Wave I to Wave II; thus, the rating decreases may have been in line with this goal if nurses were overly optimistic about readiness at Wave I and then adjusted their ratings downward during Wave II to make a more critical and informed assessment of true readiness resulting from education provided during the training. However, given the small sample size, differences in reports on all measures across Waves I and II generally were not statistically significant. Future studies could enhance the measurement approach by collecting data about the frequency with which youth actually followed through with the school nurse's referral for mental health services. These data were not able to be collected during the present study. School nurses also noted the potential utility of referral follow-through data as an indicator of the effectiveness of their implementation of the EP and so that they could continue to follow up with students who did not follow through with the referral. Despite the lack of statistically significant findings, these pilot results provide preliminary support that training school nurses to strategically implement evidence-based engagement practices has the potential to increase youths' engagement in school MHS.

Given the central role of school nurses as health service providers and ambassadors to MHS, continued pursuit of ways to enhance their use of engagement practices has the potential to increase mental health service utilization by youth. Related, an engagement program focused

on school nurses also has the potential to reduce racial/ethnic and socioeconomic disparities in mental health service receipt. As noted above, the Los Angeles Unified School District is composed of a predominantly Latino/Hispanic and highly impoverished community. A review of data from several national services on service utilization found that Latino children had higher rates of unmet mental health need than non-Hispanic White counterparts. That study also demonstrated high rates of unmet mental health need regardless of insurance status (Kataoka, Zhang, & Wells, 2002). Given high access to Latino/Hispanic youth within the school district, this type of school-based engagement program may increase service utilization, thereby reducing unmet mental health need. Future implementation of such a program may also include cultural considerations specific for Latino youths, such as emphasizing the important role of family engagement in MHS to build on cultural values like *familismo*, the emphasis on the family unit. This might also address school nurses' noted concern about resistance from youths' families about school nurses' involvement in MHS. With greater awareness of community resources, school nurses may also be able to enhance engagement in community MHS, in addition to school-based MHS.

Despite promising results, there were several significant challenges to implementation of the program. The school nurses participants' prior knowledge of signs and symptoms of mental health concerns and methods for assessing such symptoms appeared to vary widely. Some nurses reported making referral decisions based on their subjective gut feelings, whereas others indicated seeking additional information on functional impairment from other school personnel, such as teachers, who come in contact with the adolescents. The inconsistency in knowledge and assessment of symptoms may be related to differences in pre-service and in-service training, as well as differences in comfort in identifying and addressing student mental health problems. School nurses report that student mental health is an 'ignored area of nursing' (Hootman, Houck, & King, 2002, p. 193) in which they receive limited training (Stephan & Connors, 2013). On the other hand, mental health professionals receive specialized training in identification of mental health concerns. School nurses may benefit from additional training specific to identification of mental health concerns. This type of training may be especially important to increasing school nurses' competence in making appropriate mental health referrals (Stephan & Connors, 2013).

School nurses' busy schedules posed another challenge. The majority of school nurse participants did not work full-time in a single school. Instead, school nurses served several schools on a rotating basis, sometimes visiting multiple schools in one day. Being stationed at several schools may limit the amount of time school nurses have to meet with students and talk to other school personnel, thereby impacting their ability to assess for mental health concerns. Qualitatively, school nurse participants serving several schools took longer to complete study referrals. Busy schedules and a broad range of responsibility may also limit school nurses' time to participate in training, such as staff development and continuing education. For participating in our four-hour training, school administration arranged to have school nurses receive continuing education credits, which may have reduced the burden of attending.

Previous research points to several barriers to engaging adolescents in MHS, including fear of stigma regarding mental health, as well as uncertainty around what to expect from MHS and if such services would be helpful (e.g., Lindsey et al., 2013; Thompson, 2013). Consistent with these findings, during the focus group, school nurses who participated in the current study reported these to be challenges that they faced when discussing mental health issues with youths. Specifically, school nurses expressed that youths had poor insight about their mental health issues, felt stigma about and limited knowledge of mental health issues and related services. School nurses also indicated that youth noted negative prior experiences with MHS and low rapport with mental health staff when referred. However, school nurses provided several suggestions to address these barriers, such as posting posters of common mental health issues in schools to increase overall mental health awareness and providing tools to facilitate the referral process (e.g., information sheet on what to expect from MHS). In addition to youth-related barriers, school nurses themselves expressed a lack of knowledge about school mental health (e.g., poor visibility of school mental health staff). To address this concern, school mental health staff could be included in the training to facilitate collaboration to identify and address youths' mental health concerns. Alternatively, school nurses may be encouraged to seek out information on school mental health services to report on at the training.

Despite the challenges, we are encouraged by the results of this pilot trial and the possibility of improving this program for future use. Given school nurses' different training backgrounds and varying levels of familiarity with mental health, additional training specifically in assessment of mental health symptoms may be warranted. Such training may include case vignettes or role-plays of students presenting with various mental health concerns that allow school nurses' opportunities to practice assessing for symptoms and functional impairment. To strengthen school nurses' understanding and confidence to implement the EP and increase utilization of the EP, future training may also include more modeling of skills by trainers and expanded opportunities for in-depth role-playing with detailed feedback from a trainer. Other program enhancements may include a consultation period with trainers to have increased support during the implementation period (e.g., Hershell, Kolko, Baumann, & Davis, 2010; Southam-Gerow et al., 2014). During the focus group, the school nurses indicated that they felt such a time would allow them to bring real-life case examples to the EP developers and brainstorm ways to handle them with the developers and each other.

Future research may also examine implementation of this engagement program with other school staff, such as teachers or counselors. During the focus group, the school nurses in our study indicated that they already function as part of multidisciplinary teams, so inclusion of other personnel may facilitate improved identification and referral of youth with mental health needs. Wellness centers provide another potential area for implementation of the EP. Wellness centers are federally qualified health centers, often strategically located in medically underserved areas with the purpose of increasing access to medical, mental health, dental, and youth development services. Within the Los Angeles Unified School District, wellness centers were created as part of a strategic plan initiated by the Los Angeles Trust for Children's Health, a district-affiliated non-profit organization to improve students' health outcomes. These centers have co-located health and MHS. Training wellness center staff,

both medical and mental health, may be especially impactful in connecting traditionally underserved students to MHS due to access to co-located services and ease of coordination between staff within a single location. Additionally, wellness centers, despite having locations on school campuses, may be seen more as medical centers and help reduce youths' concerns of stigma in receiving MHS directly through regular school channels in the school building.

This study had several limitations. Specifically, due to confidentiality and parental consent complications discussed above, we were unable to gather behavioral data on adolescents' actual enrollment in MHS. However, we were able to obtain information on youths' readiness to enroll in MHS. Such cognitive engagement is associated with behavioral engagement, such as attendance and adherence (McKay, Pennington, Lynn, & McCadam, 2001; Nock, Ferriter, & Holmberg, 2007; Staudt, 2007). Measurement of study constructs was also a limitation of the study. In particular, this study also relied on school nurse and youths' report of the school nurses' utilization of the EP as well as other measures developed specifically for the study. Due to the small sample size, the psychometric properties of these measures cannot be determined. Future studies may include an independent evaluation of EP utilization to determine quality of school nurses' implementation of the protocol in actual interactions with youth as well as a larger sample with which to determine the reliability and validity of our measurement approach. This study also lacked an adequate control group with which to evaluate the effects of training against the passage of time.

To our knowledge, this pilot trial is the first to train school nurses to strategically utilize evidence-based engagement practices to prepare youth to enroll in MHS. Despite challenges and study limitations, we believe this a promising step towards better understanding strategies for effective practices for school nurses as a gateway into MHS. With continued progress, we believe that this expanded role of school nurses will be a powerful tool in increasing youths' engagement in MHS.
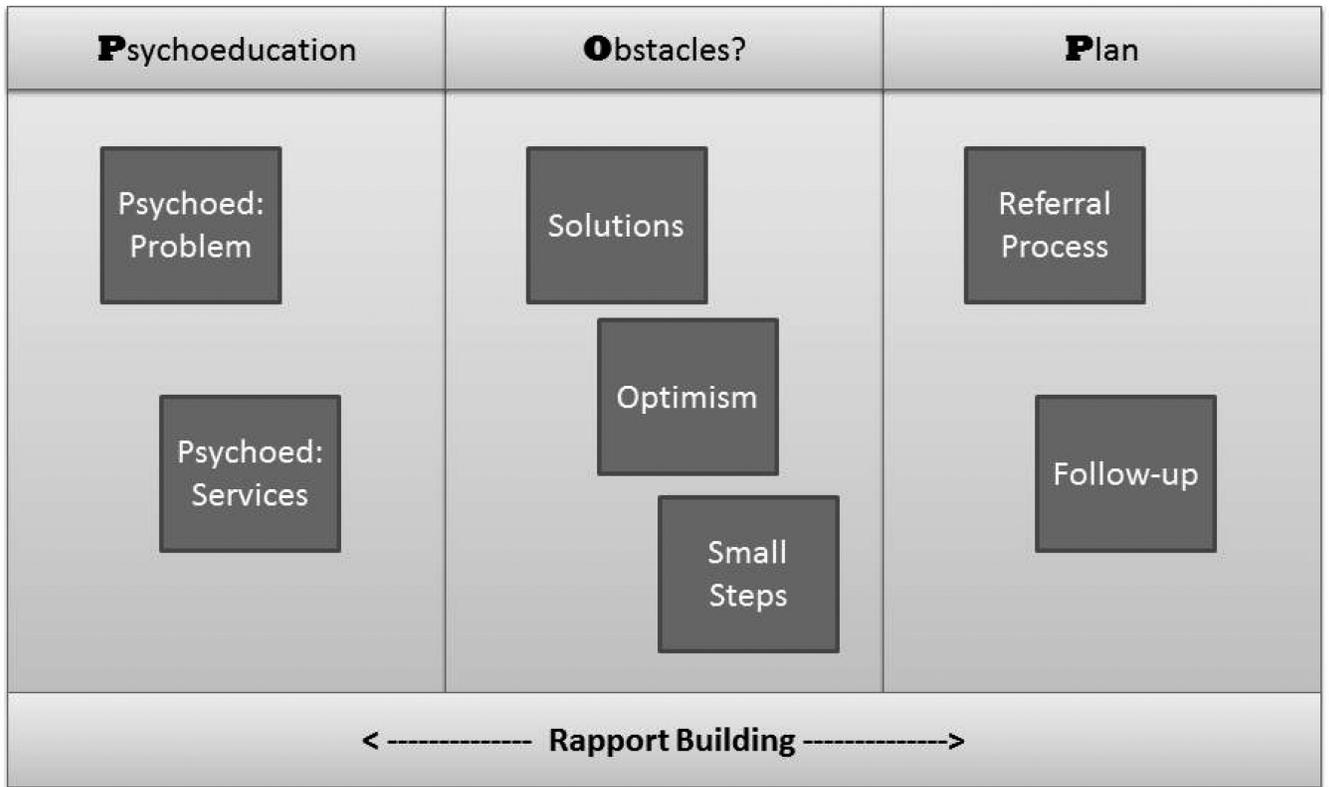
Acknowledgments

References

Adelman HS, Taylor L. Mental health facets of the school-based health center movement: Need and opportunity for research and development. The Journal of Mental Health Administration. 1991; 18:272–283.

Adelman HS, Taylor L. Mental health in schools and system restructuring. Clinical Psychology Review. 1999; 19:137–163. [PubMed: 10078417]

Becker KD, Lee BR, Daleiden EL, Lindsey M, Brandt NE, Chorpita BF. The common elements of engagement in children's mental health services: Which elements for which outcomes?. Journal of Clinical Child & Adolescent Psychology. 2015; 44:30–43. [PubMed: 23879436]

Burns BJ, Costello EJ, Angold A, Tweed D, Stangl D, Farmer EM, Erkanli A. Children's mental health service use across service sectors. Health Affairs. 1995; 14:147–159. [PubMed: 7498888]

Campo JV, Bridge J, Ehmann M, Altman S, Lucas A, Birmaher B, Brent DA. Recurrent abdominal pain, anxiety, and depression in primary care. Pediatrics. 2004; 113(4):817–824. [PubMed: 15060233]

Catron, T.; Harris, V.; Weiss, B. Posttreatment results after 2 years of services in The Vanderbilt School-Based Counseling project.. In: Epstein, M.; Kutash, K., editors. Outcomes for children and youth with emotional and behavioral disorders and their families: Programs and evaluation best practices. Pro-Ed, Inc.; Austin, TX: 1998. p. 633-656.

Catron T, Weiss B. The Vanderbilt School-Based Counseling Program: An interagency, primary-care model of mental health services. Journal of Emotional and Behavioral Disorders. 1994; 2:247–253.

Chorpita BF, Daleiden EL, Weisz JR. Identifying and selecting the common elements of evidence based interventions: A distillation and matching model. Mental Health Services Research. 2005; 7:5–20. [PubMed: 15832690]

Costello EJ, Copeland W, Angold A. Trends in psychopathology across the adolescent years: What changes when children become adolescents, and when adolescents become adults? Journal of Child Psychology and Psychiatry. 2011; 52:1015–1025. [PubMed: 21815892]

Davis, C. When schools are in the front line.. The Guardian. 2008. Retrieved from http://www.guardian.co.uk/education/2008/sep/02/schools.children

Farmer EM, Burns BJ, Phillips SD, Angold A, Costello EJ. Pathways into and through mental health services for children and adolescents. Psychiatric Services. 2003; 54:60–66. [PubMed: 12509668]

Guo S, Kataoka SH, Bear L, Lau AS. Differences in school-based referrals for mental health care: Understanding racial/ethnic disparities between Asian American and Latino youth. School Mental Health. 2014; 6:27–39.

Herschell AD, Kolko DJ, Baumann BL, Davis AC. The role of therapist training in the implementation of psychosocial treatments: A review and critique with recommendations. Clinical Psychology Review. 2010; 30:448–466. [PubMed: 20304542]

Hootman J, Houck GM, King MC. A program to educate school nurses about mental health interventions. The Journal of School Nursing. 2002; 18:191–195. [PubMed: 12201655]

Kataoka SH, Zhang L, Wells KB. Unmet need for mental health care among U.S. Children: Variation by ethnicity and insurance status. American Journal of Psychiatry. 2002; 159:1548–1555. [PubMed: 12202276]

Lindsey MA, Chambers K, Pohle C, Beall P, Lucksted A. Understanding the behavioral determinants of mental health service use by urban, under-resourced Black youth: Adolescent and caregiver perspectives. Journal of Child and Family Studies. 2013; 22:107–121. [PubMed: 23355768]

Los Angeles Trust for Children's Health. Proposed strategic plan for the establishment of school health centers in high priority geographic areas. 2009. Retrieved from http://notebook.lausd.net/pls/ptl/docs/PAGE/CA_LAUSD/FLDR_LAUSD_NEWS/FLD_ANNOUNCEMENTS_SMS/LAUSD%20STRATEGIC%20PLAN.PDF

Los Angeles Unified School District. Los Angeles Unified School District Fingertip Facts 2011-2012. 2012. Retrieved from http://notebook.lausd.net/pls/ptl/docs/PAGE/CA_LAUSD/LAUSDNET/OFFICES/COMMUNICATIONS/COMMUNICATIONS_FACTS/11-12FINGERTIPFACTSREVISED.PDF

Masia CL, Klein RG, Storch EA, Corda B. School-based behavioral treatment for social anxiety disorder in adolescents: Results of a pilot study. Journal of the American Academy of Child & Adolescent Psychiatry. 2001; 40:780–786. [PubMed: 11437016]

Masia-Warner C, Klein RG, Dent HC, Fisher PH, Alvir J, Albano AM, Guardino M. School-based intervention for adolescents with social anxiety disorder: Results of a controlled study. Journal of Abnormal Child Psychology. 2005; 33:707–722. [PubMed: 16328746]

McKay M, Pennington J, Lynn C, McCadam K. Understanding urban child mental health service use: Two studies of child, family, and environmental correlates. The Journal of Behavioral Health Services and Research. 2001; 28:475–483. [PubMed: 11732249]

Merikangas KR, He JP, Burstein M, Swendsen J, Avenevoli S, Case B, Olfson M. Service utilization for lifetime mental disorders in U.S. adolescents: results of the National Comorbidity Survey–Adolescent Supplement (NCS-A). Journal of the American Academy of Child and Adolescent Psychiatry. 2011; 50:32–45. [PubMed: 21156268]

New Freedom Commission on Mental Health. Achieving the Promise: Transforming Mental Health Care in America. Final Report (DHHS Pub. No. SMA-03-3832). Department of Health and Human Services; Rockville, MD: 2003.

Nock MK, Ferriter C, Holmberg E. Parent beliefs about treatment credibility and effectiveness: Assessment and relation to subsequent treatment participation. Journal of Child and Family Studies. 2007; 16:27–38.

Pryjmachuk S, Graham T, Haddad M, Tylee A. School nurses' perspectives on managing mental health problems in children and young people. Journal of Clinical Nursing. 2012; 21:850–859. [PubMed: 21883575]

Puskar KR, Bernardo LM. Mental health and academic achievement: Role of school nurses. Journal for Specialists in Pediatric Nursing. 2007; 12:215–223. [PubMed: 17956370]

Schneider MB, Friedman SB, Fisher M. Stated and unstated reasons for visiting a high school nurse's office. Journal of Adolescent Health. 1995; 16:35–40. [PubMed: 7742334]

Severson, H.; Walker, H. Proactive approaches for identifying children at risk for sociobehavior problems.. In: Lane, K.; Gresham, F.; O'Shaughnessy, T., editors. Interventions for children with or at risk for emotional and behavioral disorders. Allyn & Bacon; Boston: 2002. p. 33-54.

Shannon RA, Bergren MD, Matthews A. Frequent visitors: Somatization in school-age children and implications for school nurses. The Journal of School Nursing. 2010; 26(3):169–182. [PubMed: 20065098]

Snell-Johns J, Mendez J, Smith B. Evidence-based solutions for overcoming access to barriers, decreasing attrition, and promoting change with underserved families. Journal of Family Psychology. 2004; 18:19–35. [PubMed: 14992607]

Southam-Gerow MA, Daleiden EL, Chorpita BF, Bae C, Mitchell C, Faye M, Alba M. MAPping Los Angeles County: Taking an evidence-Informed model of mental health care to scale. Journal of Clinical Child & Adolescent Psychology. 2014; 43:190–200. [PubMed: 24079613]

Staudt M. Treatment engagement with caregivers of at-risk children: Gaps in research and conceptualization. Journal of Child and Family Studies. 2007; 16:183–196.

Stephan SH, Connors EH. School nurses' perceived prevalence and competence to address student mental health problems. Advances in School Mental Health Promotion. 2013; 6:174–188.

Stephan S, Weist M, Kataoka S, Adelsheim S, Mills C. Transformation of children's mental health services: The role of school mental health. Psychiatric Services. 2007; 58:1330–1338. [PubMed: 17914011]

Stevenson B. Evolving roles for school nurses: Addressing mental health and psychiatric concerns of students. NASN School Nurse. 2010; 25:30–33. [PubMed: 20440952]

Thompson R, Dancy BL, Wiley TR, Najdowski CJ, Perry SP, Wallis J, Knafl KA. African American families' expectations and intentions for mental health services. Administration and Policy in Mental Health and Mental Health Services Research. 2013; 40:371–383. [PubMed: 22791083]

Weist, MD. Expanded school mental health services: A national movement in progress.. In: Ollendick, TH.; Prinz, RJ., editors. Advances in clinical child psychology. Plenum Press; New York: 1997. p. 319-352.

Weist MD. Challenges and opportunities in expanded school mental health. Clinical Psychology Review. 1999; 19:131–135. [PubMed: 10078416]

Psychoeducation	**O**bstacles?	**P**lan
Psychoed: Problem	Solutions	Referral Process
Psychoed: Services	Optimism	Follow-up
	Small Steps	

< -------------- **Rapport Building** -------------->

Figure 1.
The POP model: A pathway for student engagement

Table 1

Engagement Checklist Items

Practice	Item
Psychoeducation: Problem	Did you tell the student about a mental health problem that might be related to the concerns that brought the student to your office today? (e.g., "Depression is when someone feels sad or blue for a while, for more days than not, and can't seem to shake the feeling or figure out why they are blue.")
Psychoeducation: Services 1	Did you tell how to get the student connected to school mental health services?
Psychoeducation: Services 2	Did you tell what might take place at the first meeting with the school therapist?
Psychoeducation: Services 3	Did you tell what school mental health services might look like (for example: who the student will meet with, what will happen in session, how often the student will meet with the therapist)?
Psychoeducation: Services 4	Did you discuss confidentiality in school mental health services?
Obstacles 1	Did you ask if the student thinks school mental health services might be helpful?
Obstacles 2	Did you ask what things might get in the way of the student following through with the referral (for example: not enough time, not wanting parent to know, feeling that other students might find out)?
Solutions	Did you find ways to get around possible challenges that might interfere with the student meeting with the school therapist?
Optimism	Did you give hope that services might help the problem improve (for example: tell a success story)?
Plan 1	Did you make a plan of next steps for connecting the student to school mental health services?
Plan 2	Did you set a timeline for you to follow through with the referral by checking up on the student?

Table 2

Engagement Practices

Engagement Practice	Protocol Name	Definition
Psychoeducation: Problem	Psychoeducation: Problem	Providing information to increase a youth's basic understanding about how his/her presenting concerns might be related to mental health concerns
Psychoeducation: Services	Psychoeducation: Services	Providing information about mental health services and procedures
Assessment of Barriers to Services	Barriers	Having an open discussion about obstacles that might get in the way of following through with a referral to the SMH provider
Problem Solving Barriers to Services	Solutions	Collaboratively developing a plan to help the youth overcome barriers to service
Expectation Setting	Optimism	Instilling hope in the youth that mental health services will bring about positive change
Eliciting Change Talk	Small Steps	Increasing youth's motivation and developing a set of small steps towards enrolling in mental health services
Planning for Referral	Plan	Discussing a realistic, achievable set of steps towards the referral and contact with a school mental health provider
Follow-Up	Follow-Up	Following up regarding progress towards goals (i.e., following through with referral or small steps)

Table 3

Readiness for Services

Expectations	Wave I				Wave II				Youth		School Nurse	
	School Nurse (*n* = 6)		Youth (*n* = 12)		School Nurse (*n* = 6)		Youth (*n* = 13)		t(df)*	*p*	t(df)	*p*
	n	*M(SD)*	*n*	*M(SD)*	*n*	*M(SD)*	*n*	*M(SD)*				
How much do you think the student likes you?	12	3.75 (0.62)	12	4.25 (1.22)	13	3.62 (0.65)	10	4.60 (0.70)	−.80(20)	.43	.53(23)	.60
How hopeful do you think the student is that school mental health services will be helpful?	12	3.67 (0.78)	12	3.45 (1.59)	13	3.23 (0.60)	11	3.63 (1.36)	−.48(21)	.64	1.58(23)	.13
How much does the student believe that his or her presenting concerns need mental health services?	12	3.17 (1.11)	12	2.42 (1.08)	13	3.08 (0.28)	11	3.09 (1.22)	−1.40(21)	.175	.28(23)	.78
How likely is it that the student will talk with the school therapist about mental health services?	12	2.42 (1.08)	12	2.73 (1.62)	13	3.15 (1.07)	11	2.73 (1.56)	.10(21)	.92	.46(23)	.65

*
Note. Degrees of freedom vary due to a small amount of missing data at Wave I and Wave II.

Table 4

Engagement Practice Utilization

Practice	Wave I				Wave II				School Nurse		Adolescent	
	School Nurse (*n* = 6)		Adolescent (*n* = 12)		School Nurse (*n* = 6)		Adolescent (*n* = 13)		$X^2(df)$	*p*	$X^2(df)$	*p*
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*				
Psychoeducation: Problem	12	1.00	8	0.67	12.00	0.92	11.00	0.85	.96(1)	.33	1.1(1)	.29
Psychoeducation: Services 1	12	1.00	9	0.75	13.00	1.00	12.00	0.92	N/A		1.39(1)	.24
Psychoeducation: Services 2	9	0.75	8	0.67	11.00	0.85	10.00	0.77	.36(1)	.55	.33(1)	.57
Psychoeducation: Services 3	12	1.00	10	0.83	12.00	0.92	10.00	0.77	.96(1)	.33	.16(1)	.69
Psychoeducation: Services 4	12	1.00	11	0.92	13.00	1.00	13.00	1.00	N/A		1.13(1)	.29
Obstacles 1	11	0.92	11	0.92	13.00	1.00	11.00	0.85	1.13(1)	.29	.29(1)	.59
Obstacles 2	8	0.67	7	0.58	11.00	0.85	8.00	0.62	1.1(1)	.29	.03(1)	.87
Solutions	4	0.33	9	0.75	12.00	0.92	11.00	0.85	9.42(1)	.002	.36(1)	.55
Optimism	11	0.92	10	0.83	12.00	1.00	12.00	0.92	1.13(1)	.29	.48(1)	.49
Plan 1	11	0.92	9	0.75	12.00	0.92	11.00	0.85	.00(1)	.95	.36(1)	.55
Plan 2	9	0.75	10	0.83	10.00	0.77	12.00	0.92	.01(1)	.91	.48(1)	.49