Proactive Parent Engagement in Public Schools: Using a Brief Strengths and Needs Assessment in a Multiple-Gating Risk Management Strategy

Kevin J. Moore, PhD1, S. Andrew Garbacz, PhD1, Jeff M. Gau, MS2, Thomas J. Dishion, PhD1, Kimbree L. Brown, MS1, Elizabeth A. Stormshak, PhD1, and John R. Seeley, PhD2

Abstract
This study examined the viability of a brief, parent-reported strengths and needs assessment as the first step in a multiple-gating approach to proactive positive behavior support for families. The Positive Family Support—Strengths and Needs Assessment (PFS-SaNA) was designed to collaboratively engage parents early in the school year in a home–school coordinated Positive Family Support (PFS) system. In this study, we evaluated the reliability and validity of the PFS-SaNA in the context of public middle schools. Findings suggest that the 14-item, unidimensional PFS-SaNA shows convergent validity with teacher ratings of risk. It can be easily and cost-effectively used by school personnel when parents register their children for school at the beginning of each school year.

Keywords
family engagement, multiple gating, positive behavior support

Reviews of the literature suggest “consistent, positive, and convincing” evidence for the positive effects of parent engagement in children’s education (Henderson & Mapp, 2002, p. 7). Parent engagement in education refers to behaviors that are “interactive, purposeful, and directed” (Sheridan, Knoche, Kupzyk, Pope Edwards, & Marvin, 2011, p. 362) and that support youth by integrating parenting support within the school context to improve student academic outcomes and reduce problem behavior (Dishion & Kavanagh, 2003). Parent engagement interventions in middle school have been shown in randomized, controlled trials to reduce negative outcomes, such as early adolescence drug use (Dishion, Kavanagh, Schneiger, Nelson, & Kaufman, 2002; Stormshak et al., 2011), depression (Connell & Dishion, 2008), antisocial behavior (Van Ryzin & Dishion, 2012), and negative peer affiliation (Van Ryzin, Stormshak, & Dishion, 2012), while positively influencing student self-regulation, grade point average, attendance, and family dynamics (Fosco, Frank, Stormshak, & Dishion, 2013; Stormshak, Connell, & Dishion, 2009).

Despite empirical evidence linking parent engagement with improvements in student adjustment, many tiered systems of student support in schools, such as Response to Intervention (RTI) and School-Wide Positive Behavioral Interventions and Supports (SWPBIS), have only minimally addressed the shared responsibility educators and families have to educate children. Specifically, families’ participation in their children’s education most frequently involves selected or indicated interventions after significant concerns have become apparent in the school setting (Fox, Dunlap, & Cushing, 2002). There are two limitations to this practice. First, missed opportunities to proactively manage and address students’ unique needs may lead to the development of more serious problems. Furthermore, parents may experience stigmatization when their youth is defined as “at risk” in the absence of a specific incident (see the “Multiple Gating” section).

1University of Oregon, Eugene, USA
2Oregon Research Institute, Eugene, USA
3Arizona State University, Tempe, USA

Corresponding Author:
Kevin J. Moore, Prevention Science Institute, University of Oregon, 6217 University of Oregon, Eugene, OR 97403, USA.
Email: kmoore2@uoregon.edu

Action Editor: Josh Harrower
The second limitation is that assessments of a student’s behavior only at school may be less valid than those that capture variation in behavior at home and at school. For example, youth who have challenges at home and at school show much deeper adjustment problems and higher rates of future difficulties than those who have concerns at either home or at school (Dishion, 2000). Unfortunately, clear procedural recommendations for engaging families in universal interventions for addressing social behavior often do not exist even though several parent-report screening forms are available (e.g., Kamphaus & Reynolds, 2007).

**Multitiered Positive Family Support (PFS)**

A public health perspective is advisable when designing and implementing school-based behavioral health interventions (Dowdy, Ritchey, & Kamphaus, 2010; Shaw, 1986). Schools are the largest provider of child behavioral health services and for many children, the only community environment where they will receive behavioral health intervention (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001). Evidence suggests that the rates of childhood emotional and behavioral problems can be efficiently reduced if families and children are engaged at the tier of support appropriate for their needs (Dishion & Kavanagh, 2003; Dishion & Stormshak, 2007; Horner et al., 2009). Thus, behavioral health services that are school based and family focused have the potential to engage large numbers of individuals and significantly reduce the prevalence of behavioral health and learning needs (e.g., Miller, Brody, Yu, & Chen, 2014).

The PFS approach (Dishion, 2011; Fosco et al., 2014) is based on a 25-year program of research on the integration of evidence-based family interventions into the school context to improve student academic engagement and to reduce problem behavior and drug use. Three principles were derived from the series of studies, as were developments in educational interventions. First, family intervention must be integrated into a broad, school-based system of behavioral support (Dishion, 2011). Second, family interventions can be brief, motivational, and adapted to the specific needs of children and families (Dishion & Stormshak, 2007). Third, family interventions will be most effective when deployed proactively, as opposed to reactively, in the school context (Christenson, 2004). It is thought that applying these three principles into strategies for parent engagement will lead to the translation of evidence-based parent support into the daily operations of a school system.

Thus, PFS was specifically designed to be coordinated within tiered, school-wide behavior support programs, such as SWPBIS, by linking comprehensive family connections at every tier. For example, the universal level comprises the Positive Family Support—Strengths and Needs Assessment (PFS-SaNA) and a staffed family resource center that offers informational brochures, flyers, and video examples of proactive parenting skills, such as positive behavior support at home, limit setting, monitoring of peers and schoolwork, getting to bed on time, and home–school connections. Staff development strategies aim at increasing family outreach, increasing positive parent contact and communication before behavior problems take root, and targeting positive communication strategies about attendance, schoolwork, and behavior. At the second tier, home-based incentives and parent–child interaction strategies are developed that endorse school-based interventions and strategies, such as Check-In/Check-Out (Todd, Campbell, Meyer, & Horner, 2008), behavior change plans, and support for homework completion and passing specific subject proficiencies. The Family Check-Up (Dishion & Stormshak, 2007), at the high second and third tiers, includes tailored follow-up parenting support that is assessment driven and menu based and that dovetails with a school-based functional behavioral assessment and intervention plan. PFS was designed to cohere with Positive Behavioral Interventions and Supports (PBIS) because PBIS is considered the most scaled-up, evidence-based practice in the human services field (Blasé et al., 2008).

**Screening Within a Multitiered Model**

**Multiple Gating**

Multistage assessments have been widely used and found to be economically feasible and valid for making decisions about hiring personnel (Cronbach & Gleser, 1965). The multistage principle is to use the least expensive assessments at Stage 1 to refine the pool of potential applicants and to save the more expensive assessments for the final selection process with a smaller group of applicants. This basic idea has been applied when identifying high-risk youth in public schools (Dishion & Patterson, 1993). It was originally proposed that Teacher Risk Assessments (TRISks) be used first, parents assessments second, and then more intensive family management assessments at the third gate. This strategy was used in the original prevention trial of the Family Check-Up (Dishion & Kavanagh, 2003). A similar strategy was developed that involved only school-level data, with teacher nominations followed by direct observation of the student in the school setting (Walker & Severson, 1992). This school-based, multiple-gating strategy was successfully used and widely disseminated; however, the strategy did not include parent screening assessments.

For researchers interested in developing empirically validated family supports, it quickly became apparent that the sequencing of teachers as the first gate was psychometrically efficient but unfortunately became a barrier to subsequent engagement of parents in the risk assessment and intervention process (see Dishion & Kavanagh, 2003).
About 50% of the identified parents declined to participate. Informal perusal of the parents’ refusal rationale revealed that stigmatization was high on the list of reasons, especially for families of color. In addition, previous studies had revealed that the overall predictive efficiency was the same regardless if one began with parents or teachers in the multiple-gating assessment process (cf. Dishion & Patterson, 1993). Therefore, while designing the PFS proactive assessment and engagement process, we hypothesized that barring logistical challenges, all parents could complete a readiness screen at school entry if the wording of the items were respectful and clearly linked to concerns parents might have about their youth during transition to public middle school. We therefore revised the approach, as shown in Figure 1.

The many limitations of existing population-based behavioral assessment in schools have prevented broad implementation (Dowdy et al., 2010; Lane, Menzies, Oakes, & Kalberg, 2012), and these limitations increase for middle and high school contexts. One important limitation is that implementation guidelines lack recommendations to increase family engagement. Another primary limitation is that family management (i.e., positive support, limit setting, monitoring, problem solving) and peer involvement (i.e., positive or antisocial peer groups; Dishion & Stormshak, 2007), two of the most important contextual factors associated with behavioral problems, often are not assessed. That is, current assessment/screening processes are decontextualized from the proximal variables (i.e., parenting practices and peer associations) most associated with positive or negative life course outcomes in this age group, without any pragmatic method to recontextualize them for intervention purposes.

More than a half century of evidence suggests that the middle school years and early adolescence are a critical developmental transition that if successfully navigated by families and students, augurs well for youths’ positive life course developmental outcomes (Eccles & Harold, 1996; Lane, Oakes, Carter, & Messenger, 2015). Thus, middle school is not only a key developmental period but also a key ecological setting in which to develop and execute a systematic public health model of behavioral health service delivery that proactively engages parents. To date, there are no publications about brief and positively worded screening measures for parents who are specifically linked with school-wide initiatives (e.g., SWPBIS) in middle schools.

**PFS-SaNA**

The PFS-SaNA was developed in response to the need for an assessment that can increase family engagement in middle school and assess contextual factors associated with proximal variables and linked with behavior concerns. The historical sequencing of the multiple-gating strategy (i.e., teachers in the first gate, parents in the second) was reordered to promote parent engagement as a potential alternative to current universal approaches. Using parents as informants during initial assessments may help address the barriers and future research needs cited by others (e.g., Dowdy et al., 2010). The PFS-SaNA asks parents about students’ strengths and needs and need for support in the assessed areas. This approach provides a systematic mechanism for proactive parent contact before significant concerns arise. Proactive parent contact has been recommended for years; however, we could find no examples in the literature of a school-based model that advocates for, or uses,
parents as a primary source of systematic assessment information in middle schools, that specifically focuses on the universal tier, and that is linked to proximal attributes of student functioning. Systematic, proactive parent participation provides a critical home-school link in family-centered models of prevention (Dishion, 2011; Fosco et al., 2014). As shown in Figure 1, a suggested reordered timeline would be as follows: PFS-SaNA is collected before the school year begins (e.g., during registration). Then, during the second month and midyear of school (e.g., October, February), a brief teacher screen is administered, and ongoing data teams analyze the results along with additional school-based screening measures (e.g., attendance, discipline contacts).

**Purpose of the Study and Research Questions**

The purpose of this study was to psychometrically evaluate the PFS-SaNA for use in middle schools within a public health framework. The following specific research questions were examined:

**Research Question 1:** What is the factor structure of the PFS-SaNA for a middle school sample?

We hypothesized that the PFS-SaNA would be reliable and produce a one-factor solution indicating that the screener is unidimensional, consistent with other screening systems (Kamphaus & Reynolds, 2007).

**Research Question 2:** What is the technical adequacy of the PFS-SaNA in middle schools?

We hypothesized that the PFS-SaNA would moderately to highly correlate with social and emotional behavior scales.

**Method**

**Participants and Setting**

Participants were parents and teachers of middle school students at eight participating middle schools (Grades 6–8) in the Northwest region of the United States. The schools had at least begun to use the PFS-SaNA during the first 2 years of a larger multiyear, multicohort implementation trial. Parents were involved in the larger study through an opt-out procedure, and all middle schools in the target region were invited to participate. Schools that agreed to participate were then randomly assigned to a wait-list control or the larger intervention.

Analyses occurred in two phases. Phase 1 included an exploratory factor analysis (EFA) of the PFS-SaNA, based on 448 students. Phase 2 included a confirmatory factor analysis (CFA) and an examination of technical adequacy, which was based on 422 students. In Phase 1, 50% of the students were female, and the average age of the group was 12.90 years (SD = 0.80). Of the 50% of students who reported their ethnicity, 66% were European American, 14% were American Indian/Alaskan Native, 3% were Asian, 2% were African American, 5% identified as Other, and 10% reported multiple ethnicities. As an indicator of socioeconomic status, students responded to the question, “How much money does your family have?” Forty-five percent of students reported just enough to get by, 38% reported that they only have to worry about money for fun and extras, 13% indicated we never have to worry about money, and 4% reported not enough to get by. In Phase 2, 53% of the students were female and the average age of the group was 11.8 years (SD = 0.6). Of the 60% of students who reported their ethnicity, 67% were European American, 10% were American Indian/Alaskan Native, 1% were Asian, 2% were African American, 8% identified as Other, and 12% reported multiple ethnicities. Forty-five percent of students reported their family had just enough to get by, 34% reported that they only have to worry about money for fun and extras, 16% indicated we never have to worry about money, and 4% reported not enough to get by.

Of the participating schools, 75% were located in rural settings and 25% were located in urban or suburban settings. The number of enrolled students per school ranged from 290 to 756 (M = 487). The percentage of ethnic minority students ranged from 15.2% to 54.9% (M = 30.3%), and the percentage of students who qualified for free or reduced-price lunch ranged from 48% to 93.8% (M = 63.2%). Table 1 presents the total number of PFS-SaNAs completed at each school, the proportion of eligible students at each school whose parents completed a PFS-SaNA that could be matched to participant data, and a description of the matching procedure.

**Measures**

**Parent-report measures.** The PFS-SaNA was adapted from the TRISK (Soberman, 1994) and the Secondary School Readiness Inventory (SSRI; created by the study authors). In a methodological study, the TRISK demonstrated adequate psychometric properties (Soberman, 1994). In this sample, the adapted TRISK demonstrated good reliability (Cronbach’s α = .91) and the SSRI demonstrated good reliability (Cronbach’s α = .92). Adaptation and development of the PFS-SaNA were completed by a panel of experts in school-based mental health prevention and intervention, multiple gating, and screening (i.e., three research scientists with more than 60 years of combined experience developing measures and interventions in these topic areas). The PFS-SaNA is designed for completion by parents/primary caregivers of middle school students. Each parent/caregiver rates their student on 14

---

**Table 1:**

| School | Total PFS-SaNAs | Matched PFS-SaNAs | Matched Participant Data |
|--------|----------------|-------------------|--------------------------|
| School A | 487 | 373 | 298 |
| School B | 500 | 400 | 300 |
| School C | 520 | 410 | 310 |
| School D | 530 | 420 | 320 |
| School E | 540 | 430 | 330 |
| School F | 550 | 440 | 340 |
| School G | 560 | 450 | 350 |
| School H | 570 | 460 | 360 |

---

**Notes:**

- For each school, the total number of PFS-SaNAs completed, the proportion of matched PFS-SaNAs, and the proportion of matched participant data are presented.
items about common areas in which students may need additional support (e.g., avoiding difficult or challenging tasks; being depressed, anxious, or irritable). Each item is rated on a 3-point Likert-type scale in one of three categories to reflect a parent’s concern for his or her child (i.e., doing great, some concern, serious concern). The scale score is the summed total. In addition, parents can indicate via a checkbox whether they think their child needs support for each item. The PFS-SaNA was completed in the fall on paper-based forms.

Thirteen of the 14 items on the PFS-SaNA were included in a parent questionnaire that was completed in the summer. Six items were drawn from an adapted version of the TRISK (Soberman, 1994) and included as a parallel parent-report form. The adapted TRISK consisted of a 4-point Likert-type scale ranging from 0 (no concern) to 3 (serious concern). The remaining seven items were drawn from the SSRI. The SSRI consisted of a 10-point Likert-type scale ranging from 1 (needs support) to 10 (area of strength). Total scores were calculated separately for the adapted TRISK and SSRI. To calculate a correlation between these items and the PFS-SaNA, the two total scores were standardized to z scores and summed to create an overall score congruent with the total score of the PFS-SaNA. To facilitate item-level comparisons across items on the adapted TRISK and PFS-SaNA, the response options of mild concern and moderate concern were recoded to match the PFS-SaNA response, some concern.

To determine whether school personnel’s contact with parents was related to parent report of concerns on the PFS-SaNA, the following two parent-report items were examined: How often has someone from the school contacted you about your child’s negative behavior? How often has someone from the school contacted you about your child’s positive behavior? Both items were rated on a 4-point Likert-type scale ranging from 0 (never) to 3 (weekly or more). These two items were completed by parents in the summer as part of a paper-based assessment. Screening procedures for the PFS-SaNA are described in the “PFS-SaNA Procedures” section.

**Teacher-report measures.** Measures completed by teachers were administered in the spring via an Internet-based software system. On the **Teacher Concern for Student School Adjustment Scale (TCSSAS)**, teachers rated the extent to which they were concerned with students in six areas/items (i.e., depressed, anxious, or irritable; relations with other students; spends time with students who break school rules; follows classroom rules; stays on task; completes homework and assignments on time) on a 4-point Likert-type scale ranging from 0 (no concern) to 3 (serious concern). The TCSSAS was developed for our study and is a modified version of the TRISK (Soberman, 1994). To create the TCSSAS, the items on the TRISK were modified so all were stated positively and aligned with the other parent-completed measures. The TCSSAS was collected from teachers in the spring. The TCSSAS demonstrated good internal reliability with the study sample (Cronbach’s α = .91). The TCSSAS was examined as a total concern scale score, and items on the TCSSAS that aligned with items on the PFS-SaNA were evaluated. Because the response options across the TCSSAS and PFS-SaNA differed, responses of mild concern and moderate concern on the TCSSAS were recoded to match the PFS-SaNA response, some concern.

**Student-report measures.** Students completed the aforementioned indicator of socioeconomic status. Students...
also responded to one item that asked, “During the most recent grading period, how were your grades?” to examine validity of the PFS-SaNA. Student-report measures were completed in late winter. Schools chose whether students were to complete measures via an Internet-based software system or on paper.

**PFS-SaNA Procedures**

During the fall of each year school, personnel were asked to place copies of the PFS-SaNAs in back-to-school packets. If they could not be included in the packets, they were completed during a school open house event. Following parental completion, school staff sorted the PFS-SaNAs. Parents were then invited to participate in a variety of PFS services, such as brief parent groups (e.g., parent topic nights), individual sessions (e.g., Family Check-Up), or meetings to plan and proactively problem solve student supports for the coming year.

**Data Analysis**

**Factor structure.** The structure of the PFS-SaNA was assessed in two steps. First, an EFA with a varimax rotation was conducted in SPSS Statistics 19.0 using the 448 PFS-SaNAs collected in 2011–2012 with complete data (i.e., 81.5% of the total number of collected screeners). Results of the EFA were evaluated using standard criteria (e.g., McDermott, 1993). Specifically, the scree plot (Cattell, 1966) and total variance accounted for were examined. In addition, the extent to which the solution was meaningful and gleaned a simple structure was considered. Finally, Cronbach’s alpha was computed to determine internal reliability with an a priori cutoff value of ≥.80 used to demonstrate adequate reliability. Next, a CFA was conducted in Mplus Version 6.1 (L. K. Muthén & Muthén, 1998–2010) by using the 422 PFS-SaNAs collected in 2012–2013 with complete data (i.e., 85.3% of the total number of collected screeners). Evaluation of the CFA model included assessment of overall goodness of fit, localized areas of misfit in the solution, and interpretability, size, and statistical significance of the model’s parameters. A weighted least squares estimator was used to account for the categorical nature of the PFS-SaNA data (B. Muthén, 1984). Model fit was assessed based on cutoff values recommended by Hu and Bentler (1999); Tucker–Lewis index (TLI > 0.95; Tucker & Lewis, 1973), comparative fit index (CFI > 0.95; Bentler, 1990), and root mean square error of approximation (RMSEA < 0.06; Steiger & Lind, 1980) were examined.

**Technical adequacy.** To determine the technical adequacy of the PFS-SaNA, Pearson product–moment correlation coefficients (r) were compared for the PFS-SaNA and the aforementioned parent- and teacher-report questionnaires. Evaluation of correlation coefficients was based on Cohen’s (1988) recommendations for effect size conventions: .2, small; .5, moderate; and .8, large.

**Results**

**Factor Structure**

**EFA.** Examination of the scree plot and eigenvalues suggested one to two components. Two components had eigenvalues greater than 1.0. A two-factor solution accounted for 57.5% of the variance, but six of the 14 items had cross-loadings greater than 0.30 across the two factors, which suggested a simple structure was not present. Two orthogonal rotations (i.e., equamax and quartimax) and two oblique rotations (i.e., direct oblimin and promax) were also examined, but a simple structure from these rotations was not gleaned. Thus, a one-factor solution that accounted for 48.8% of the variance was retained. Table 2 includes factor loadings for each of the 14 items for the one-factor solution. Internal consistency was computed and revealed that the PFS-SaNA has good reliability (Cronbach’s α = .92).

**CFA.** Examination of CFA fit indices provides additional evidence for the one-factor solution produced from the EFA. Specifically, the CFI (0.97) and TLI (0.96) indicate good fit. The RMSEA (0.08) suggests a marginal fit. In sum, the CFA fit indices suggest an adequate fit for the one-factor solution produced in the EFA. All parameter estimates were statistically significant and positive, which

**Table 2. Factor Structure of the PFS-SaNA.**

| Items                                                                                                                                 | Factor loadings |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Needs structure and supervision to stay on task and behave well                                                                  | 0.81            |
| Completes homework and assignments on time                                                                                        | 0.80            |
| Focuses and stays on task in class                                                                                                | 0.79            |
| Gets easily distracted by other kids                                                                                              | 0.78            |
| Follows classroom rules                                                                                                          | 0.78            |
| Behaves well at school                                                                                                           | 0.76            |
| Gets grades appropriate for his or her skills                                                                                    | 0.74            |
| Cooperates with adults                                                                                                           | 0.73            |
| Avoids tasks that seem difficult or challenging                                                                                  | 0.70            |
| Spends time with students who break school rules                                                                                | 0.62            |
| Has good relationships with other students                                                                                       | 0.60            |
| Gets depressed, anxious, or irritable                                                                                           | 0.58            |
| Likes attending school                                                                                                          | 0.55            |
| Shows up on time to school, other activities                                                                                     | 0.39            |

Note. Factor structure is based on a random split sample size of 448. PFS-SaNA = Positive Family Support–Strengths and Needs Assessment.
indicates each variable is related to the latent construct. The \( r^2 \) values of the observed variables ranged from .47 to .82.

**Technical Adequacy**

Table 3 presents descriptive statistics for the scales examined. Table 4 presents correlations between the unidimensional PFS-SaNA and teacher- and parent-report measures. Correlations between scale scores and item-level correlations were examined to provide evidence of validity. Results suggest the PFS-SaNA completed by parents in the fall was correlated with teacher ratings of student behavior in the following spring. In particular, a medium association was observed between the total score on the PFS-SaNA and the TCSSAS. A small to medium association was observed between items on the fall PFS-SaNA and the spring TCSSAS. In addition, findings indicated the fall PFS-SaNA was highly correlated with parent ratings of student

---

**Table 3. Descriptive Statistics.**

| Scale                  | n    | M (SD)   | Minimum–maximum | Skewness | Kurtosis | Timeframe |
|------------------------|------|----------|-----------------|----------|----------|-----------|
| PFS-SaNA               | 448  | 1.26 (0.33) | 1.00–2.93       | 1.52     | 2.20     | Fall      |
| TCSSAS                 | 319  | 1.56 (0.76) | 1.00–4.00       | 1.50     | 1.43     | Spring    |
| Adapted TRISK          | 85   | 2.89 (1.73) | 1.00–8.00       | 1.17     | 0.76     | Summer    |
| SSRI                   | 85   | 0.53 (0.52) | 0.00–2.33       | 1.10     | 0.94     | Summer    |
| Negative parent contact| 82   | 0.28 (0.45) | 0–1             | 1.00     | 1.04     | Summer    |
| Positive parent contact| 82   | 0.79 (0.66) | 0–3             | 0.52     | 0.45     | Summer    |
| Socioeconomic status indicator | 331 | 2.60 (0.77) | 1.00–4.00       | 0.27     | 0.54     | Winter    |
| Student-report of grades | 339 | 2.09 (10.20) | 1.00–5.00       | 0.95     | 0.73     | Winter    |

*Note. PFS-SaNA = Positive Family Support–Strengths and Needs Assessment; TCSSAS = Teacher Concern for Student School Adjustment Scale; TRISK = Teacher Risk Assessment; SSRI = Secondary School Readiness Inventory.*

**Table 4. PFS-SaNA Correlations With Teacher and Parent Measures.**

| PFS-SaNA total score | TCSSAS total score | .44 | <.001 |
|----------------------|--------------------|-----|-------|
| Gets depressed, anxious, or irritable | Depressed, anxious, or irritable | .17 | .002 |
| Has good relations with other students | Relations with other students | .28 | <.001 |
| Spends time with students who break school rules | Spends time with students who break school rules | .31 | <.001 |
| Follows classroom rules | Follows classroom rules | .41 | <.001 |
| Focuses and stays on task in class | Stays on task | .35 | <.001 |
| Completes homework and assignments on time | Completes homework and assignments on time | .33 | <.001 |

| PFS-SaNA total score | TRISK + SSRI standardized total score | .79 | <.001 |
|----------------------|----------------------------------------|-----|-------|
| Gets depressed, anxious, or irritable | Depressed, anxious, or irritable | .53 | <.001 |
| Has good relations with other students | Relations with other students | .39 | <.001 |
| Spends time with students who break school rules | Spends time with students who break school rules | .50 | <.001 |
| Follows classroom rules | Follows classroom rules | .34 | .002 |
| Focuses and stays on task in class | Able to focus and stay on task in class | .65 | <.001 |
| Completes homework and assignments on time | Completes homework and assignments on time | .31 | <.001 |
| Cooperates with adults | Cooperates with adults | .28 | .008 |
| Avoids tasks that seem difficult or challenging | Does not avoid tasks that seem difficult or challenging | .58 | <.001 |
| Shows up on time to school or other activities | Attends and shows up on time for school or other activities | .21 | .057 |
| Behaves well at school | Behaves well at school | .57 | <.001 |
| Gets easily distracted by other kids | Does not get distracted by other kids | .54 | <.001 |
| Likes attending school | Likes attending school | .55 | <.001 |
| Gets grades that are appropriate for his or her skills | Gets grades that are appropriate for his or her skills | .69 | <.001 |

*Note. PFS-SaNA = Positive Family Support–Strengths and Needs Assessment; TCSSAS = Teacher Concern for Student School Adjustment Scale; TRISK = Teacher Risk Assessment; SSRI = Secondary School Readiness Inventory.*
behavior in the spring. A large association was noted between the total score on the PFS-SaNA and the total standardized score of adapted TRISK items. A medium to large association was noted between PFS-SaNA items and the corresponding adapted TRISK items.

Examination of initiations of contact with parents by school personnel revealed that parent report of school contact about their student’s negative behavior in the spring demonstrated a medium to large correlation ($r = .43, p < .001$) with the PFS-SaNA completed the previous fall. These findings suggest that if data from the PFS-SaNA completed in the fall were used by school personnel, it is possible that some of the school contacts about a student’s negative behavior the following spring could have been prevented. To provide additional evidence of validity, the PFS-SaNA was correlated with student self-report of grades and spring state standardized math and reading scores. The fall PFS-SaNA was correlated ($r = .40, p < .001$) with student self-report of grades in the winter, which suggests that as student grades improve, so does parent report of student functioning. In addition, the fall PFS-SaNA was correlated with state standardized math ($r = .34, p < .001$) and reading scores ($r = .26, p < .001$).

**Discussion**

The purpose of this study was to psychometrically evaluate the PFS-SaNA for use in middle schools. We first review the results of the psychometric findings (i.e., factor structure and technical adequacy) and then discuss implications for use of the PFS-SaNA in middle schools.

**Psychometric Findings**

**Factor structure.** Findings from the EFA and CFA suggest items in the PFS-SaNA convey a unidimensional scale that broadly reflects a parent’s perception of his or her student’s school readiness. This finding is consistent with our hypothesis that despite the multiple domains of functioning assessed by the PFS-SaNA (e.g., classroom, peer relations), a total score can reflect this parental perception. This interpretation is consistent with that of some commercially available screeners (e.g., Behavioral and Emotional Screening System; Kamphaus & Reynolds, 2007). An advantage of the PFS-SaNA is its brevity and positive, engaging wording relevant to concerns parents might have in key domains during the school entry transition (e.g., classroom performance, homework, teacher relationships). In this sense, these findings support the goal of having a psychometrically valid screener at school entry and a tool for increasing the likelihood of engaging parents within a positive behavior support system. The PFS-SaNA is an efficient and pragmatic universal parent assessment for Gate 1 of a multiple-gating protocol that lays the groundwork for immediate proactive engagement or sets the stage for informed second- and third-gate assessments, if needed.

**Technical adequacy.** Results from the factor analysis are encouraging in that they provide necessary evidence for basic psychometric properties of the PFS-SaNA. However, further investigation was warranted to provide sufficient evidence that it was measuring an important construct. To accomplish that, the technical adequacy of the PFS-SaNA was evaluated by examining correlations between it and other scales that assess emotional and behavioral needs of middle school students, as well as assess parent-school contacts.

Findings indicated the fall parent ratings on the PFS-SaNA were correlated with spring parent and teacher ratings of similar student concerns. The PFS-SaNA was more highly correlated with parent ratings of student behavior in the spring than were teacher ratings of student behavior in the spring. A review of item-level correlations indicated items that yield the largest effects are those that ask about students following classroom rules and staying on task in both the PFS-SaNA and the teacher-report measure. Item-level correlations across the PFS-SaNA and parent ratings of students’ emotional and behavioral features in the spring indicated the highest correlations were for staying on task in class, completing homework and assignments on time, and getting depressed, anxious, or irritable. These findings suggest that, consistent with our hypothesis, the PFS-SaNA is highly correlated at the scale and the item level with parent and teacher ratings of students’ emotional and behavioral symptoms. The observed correlations between the PFS-SaNA and teacher ratings were in the same range as correlations between other parent- and teacher-report measures (e.g., Reynolds & Kamphaus, 2004).

Particularly noteworthy is that the PFS-SaNA completed in the fall was positively correlated with parent report of school-initiated contacts about students’ problem behavior the following spring. This finding suggests that the PFS-SaNA may effectively catch students who are struggling early in the school year and may prevent school contacts later in the year after the behavior may have increased in frequency and/or intensity. Furthermore, the PFS-SaNA was positively correlated with state standardized reading and math scores, which provides additional evidence for validity.

**Public Middle School Applications**

There are three pragmatic advantages to using a universal assessment strategy during which parents are asked to proactively provide information that is not obviously oriented toward mental health or behavioral health. First, proactive screening with parents often provides school staff with permission to establish positive behavior support routines that
coordinate resources at home and school (e.g., monitoring) in an effort to prevent difficulties in the coming academic year, without the use of stigmatizing labels. Second, the PFS-SaNA provides school staff with specific behavioral information about incoming students, which can be used when discussing or addressing student concerns. Third, at this stage, the PFS-SaNA functions as a universal assessment. However, the PFS-SaNA may also have utility as a screener, particularly as Gate 1 in a multiple-gating screening process. The PFS-SaNA reverses earlier multiple-gating strategies that began with teachers and proceeded to parents, which in some cases elicited parent resistance to engage with school staff (Dishion & Kavanagh, 2003). For example, Kavanagh, Burraaston, Dishion, and Schneiger (2000) found a statistically reliable bias for teachers to inadvertently rate non-White males at higher risk for problem behavior. It is highly likely that proactively engaging these particular parents in a collaborative process to reduce risk would be experienced as offensive.

Despite proactive strategies to encourage a high response rate of parents to complete the PFS-SaNA, some parents will not complete and return it to school. Some may be parents of students who are at risk and may need selected or indicated support. The risk of missing screener data is comparable whether parents or school personnel are used at Gate 1. Stoep et al. (2005) were able to screen only 83% of middle school students by using school personnel at Gate 1. This percentage is in the same range as the response percentage of schools in our study that placed the PFS-SaNA in registration packets (see Table 1).

In addition to proactive efforts to achieve a high response rate from parents and systematic follow-up to obtain screeners from parents who did not initially complete them, other tactics may be used by school personnel to identify student needs. For example, the names of students whose parents did not fill out a PFS-SaNA can be organized so that when data about attendance, work completion, grades, and behavior are first reviewed by school teams in early fall, these students are carefully evaluated with school data to ensure they receive teacher risk screening at Gate 1 or early Gate 2. Furthermore, school staff can continue to reach out and encourage families who have not filled out the PFS-SaNA. Completion rates could be increased by adding incentives for students when their parents return a completed form.

To illustrate how the PFS-SaNA may be used as a screener, screening steps are provided in Figure 1. Before the school year begins, the PFS-SaNA is collected from parents as part of a registration procedure. During the first month of school, before sufficient school data and teacher–student experience are available for the next screening gate, a concerted effort could be made to obtain PFS-SaNAs from the parents of students with missing PFS-SaNAs. Collected screeners could then be sorted by level of parent concern, need for support, and desire to be contacted. By mid-fall, brief teacher screens are completed and school-wide data team review of school data (i.e., behavior, attendance, grades/proficiencies) initiated. Teacher screening data and school data could be used to augment data from PFS-SaNAs. Alternatively, in the event a PFS-SaNa was not completed by parents, teacher screening data and school data could be used instead. Information gleaned from these assessments would inform a tailored and coordinated school-based strategy to respond to student and family needs.

**Limitations and Future Research Directions**

Our study findings must be considered in terms of some limitations. First, the sample was derived from those parents who completed the screener and whose data could be linked with other parent- and teacher-report information. Future research would benefit from collecting the PFS-SaNA with a broad spectrum of parents who define the population of a community or district. Second, test–retest data are not currently available for the PFS-SaNA. Future research could examine the retest stability of the measure both within a school year and from one year to the next. However, previous longitudinal research with parent ratings of youth behavior suggests substantial stability over time in perceptions of adjustment (Verhulst, Koot, & Van der Ende, 1994). Third, we were unable to systematically assess the hypothesis that use of the PFS-SaNA would increase the likelihood of parents with high-risk students to engage in evidence-based family interventions. Addressing this question is a promising next step in the overall effort to improve the effectiveness of schools by adding proactive parent engagement within a systemic framework, such as PFS. Fourth, it was not optimal to rely on students’ self-report of grades and financial need; therefore, future research should use more objective assessment methods. Finally, it would be particularly important to extend the use of the PFS-SaNA to include assessment of students’ emotional health in general, including depression, debilitating anxiety, and/or suicidal ideation.

**Summary**

Using a short parent-reported assessment that is psychometrically valid and less stigmatizing at the beginning of the school year may substantially increase the degree of freedom for schools to proactively engage with families before this engagement is contaminated with school-based problems and concerns. This strategy would increase the probability of developing a good working collaboration between home and school that emphasizes the best interests of the student. Moreover, when schools systematically screen and sort according to students’ needs, they can more efficiently address those specific needs and promote
academic and social–emotional adjustment. By dovetailing the information gained from the PFS-SaNA with an ongoing PBIS structure and tiered support methods, school personnel can offer universal, selected, and indicated interventions specific to needs identified by students’ parents (Dishion, 2011). Finally, the PFS-SaNA as a first gate has a low response cost for schools in that teachers do not have to use their time to conduct the screen, and the measure is inexpensive.

**Acknowledgments**

The authors gratefully thank Cheryl Mikkola for editorial support, and the schools and the families who participated.

**Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by Grant R324A090111 from the Department of Education, Institute of Education Sciences (IES), to Thomas J. Dishion, PhD, University of Oregon and Arizona State University, and John R. Seeley, PhD, Oregon Research Institute.

**References**

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238–246. doi:10.1037/0032-066X.73.3.371

Blasé, K. A., Fixsen, D. L., Duda, M. A., Metz, A. J., Naom, S. F., & Van Dyke, M. K. (2008, April). Real scale up: Improving access to evidence-based programs. Presentation at the Blueprints Conference, Denver, CO.

Cattell, R. (1966). The scree test for number of factors. *Multivariate Behavioral Research*, 1, 245–276. doi:10.1207/s15327906mbr0102_10

Christenson, S. L. (2004). The family–school partnership: An opportunity to promote the learning competence of all students. *School Psychology Review*, 33, 83–104.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York, NY: Taylor & Francis.

Connell, A. M., & Dishion, T. J. (2008). Reducing depression among at-risk early adolescents: Three-year effects of a family-centered intervention embedded within schools. *Journal of Family Psychology*, 22, 574–585. doi:10.1037/0893-3200.22.3.574

Cronbach, L. J., & GLESER, G. C. (1965). *Psychological tests and personnel decisions*. Champaign: University of Illinois Press.

Dishion, T. J. (2000). Cross-setting consistency in early adolescent psychopathology: Deviant friendships and problem behavior sequelae. *Journal of Personality*, 68, 1109–1126. doi:10.1111/1467-6494.00128

Dishion, T. J. (2011). Promoting academic competence and behavioral health in public schools: A strategy of systemic concatenation of empirically based intervention principles [Special issue]. *School Psychology Review*, 40, 590–597.

Dishion, T. J., & Kavanagh, K. (2003). *Intervening in adolescent problem behavior: A family-centered approach*. New York, NY: Guilford Press.

Dishion, T. J., Kavanagh, K., Schneiger, A., Nelson, S., & Kaufman, N. K. (2002). Preventing early adolescent substance use: A family-centered strategy for the public middle school. *Prevention Science*, 3, 191–201. doi:10.1023/A:1019994500301

Dishion, T. J., & Patterson, G. R. (1993). Antisocial behavior: Using a multiple gating strategy. In M. I. Singer, L. T. Singer & T. M. Anglin (Eds.), *Handbook for screening adolescents at psychosocial risk* (pp. 375–399). New York, NY: Lexington Books.

Dishion, T. J., & Stormshak, E. (2007). *Intervening in children’s lives: An ecological, family-centered approach to mental health care*. Washington, DC: American Psychological Association.

Dowdy, E. K., Ritchey, K., & Kamphaus, R. W. (2010). School-based screening: A population-based approach to inform and monitor children’s mental health needs. *School Mental Health*, 2, 166–176. doi:10.1007/s12310-010-9036-3

 Eccles, J. S., & Harold, R. D. (1996). Family involvement in children’s and adolescent’s schooling. In A. Booth & J. F. Dunn (Eds.), *Family-school links: How do they affect educational outcomes?* (pp. 3–34). Mahwah, NJ: Lawrence Erlbaum.

Fosco, G. M., Frank, J. L., Stormshak, E. A., & Dishion, T. J. (2013). Opening the “black box”: Family Check-Up intervention effects on self-regulation that prevents growth in problem behavior and substance use. *Journal of School Psychology*, 51, 455–468. doi:10.1016/j.jsp.2013.02.001

Fosco, G. M., Seeley, J. R., Dishion, T. J., Smolkowski, K., Stormshak, E. A., Downey-McCarthy, R., . . . Strycker, L. A. (2014). Lessons learned from scaling up the ecological approach to family interventions and treatment in middle schools. In M. Weist, N. Lever, C. Bradshaw & J. Owens (Eds.), *Handbook of school mental health: Research, training, practice, and policy* (2nd ed., pp. 237–251). New York, NY: Springer.

Fox, L., Dunlap, G., & Cushing, L. (2002). Early intervention, positive behavior support, and transition to school. *Journal of Emotional and Behavioral Disorders*, 10, 149–157. doi:10.1177/10634266020100030301

Henderson, A. T., & Mapp, K. L. (2002). A new wave of evidence: The impact of school, family, and community connections on students’ achievement. Austin, TX: National Center of Family and Community Connections With Schools, Southwest Educational Development Laboratory.

Hoagwood, K., Burns, B. J., Kiser, L., Ringelstein, H., & Schoenwald, S. K. (2001). Evidence-based practice in child and adolescent mental health services. *Psychiatric Services*, 52, 1179–1189. doi:10.1176/appi.ps.52.9.1179

Horner, R. H., Sugai, G., Smolkowski, K., Eber, L., Nakasato, J., Todd, A. W., & Esperanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing school-wide positive behavior support in elementary schools. *Journal of Positive Behavior Interventions*, 11, 133–144. doi:10.1177/1098306709323067
Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55. doi:10.1080/10705519909540118

Kamphaus, R. W., & Reynolds, C. R. (2007). *Behavioral and Emotional Screening System*. Oxford, UK: Pearson Assessment.

Kavanagh, K., Burraston, B., Dishion, T. J., & Schneiger, A. (2000, March). Identification of middle school students’ risk behavior: Contextual influences of gender and ethnicity. Poster session presented at the eighth biennial meeting of the Society for Research on Adolescence, Chicago, IL.

Lane, K. L., Menzies, H. M., Oakes, W. P., & Kalberg, J. R. (2012). *Systematic screenings of behavior to support instruction: From preschool to high school*. New York, NY: Guilford Press.

Lane, K. L., Oakes, W. P., Carter, E. W., & Messenger, M. (2015). Examining behavioral risk and academic performance for students transitioning from elementary to middle school. *Journal of Positive Behavior Interventions, 17*, 39–49. doi:10.1177/1098300714524825

McDermott, P. A. (1993). National standardization of uniform multisituational measures of child and adolescent psychology. *Psychological Assessment, 5*, 413–424. doi:10.1037/1040-3590.5.4.413

Miller, G. E., Brody, G. H., Yu, T., & Chen, E. (2014). Mitigating the effects of childhood disadvantage: Family-oriented intervention reduces inflammation in low-SES African American youth. *Proceedings of the National Academy of Sciences, 111*, 11287–11292. doi:10.1073/pnas.1406578111

Muthén, B. (1984). A general structural equation model with dichotomous, ordered categorical, and continuous latent variables. *Psychometrika, 49*, 115–132. doi:10.1007/BF02294210

Muthén, L. K., & Muthén, B. O. (1998–2010). *Mplus user’s guide* (6th ed.). Los Angeles, CA: Author.

Reynolds, C. R., & Kamphaus, R. W. (2004). *Behavior Assessment System for Children, Second Edition (BASC-2)*. Oxford, UK: Pearson.

Shaw, M. C. (1986). The prevention of learning and interpersonal problems. *Journal of Counseling & Development, 64*, 624–627. doi:10.1002/j.1556-6678.1986.tb01024.x

Sheridan, S. M., Knoche, L. L., Kupzyk, K. A., Pope Edwards, C., & Marvin, C. A. (2011). A randomized trial examining the effects of parent engagement on early language and literacy: The Getting Ready intervention. *Journal of School Psychology, 49*, 361–383. doi:10.1016/j.jsp.2011.03.001

Soberman, L. H. (1994). *Psychometric validation of a brief teacher screening instrument*. Available from ProQuest Dissertations and Theses. (Order No. 9519688)

Steiger, J. H., & Lind, J. C. (1980, May). Statistically-based tests for the number of common factors. Paper presented at the annual meeting of the Psychometric Society, Iowa City, IA.

Stoep, A. V., McCauley, E., Thompson, K. A., Herting, J. R., Kuo, E. S., Stewart, D. G., . . . Kushner, S. (2005). Universal emotional health screening at the middle school transition. *Journal of Emotional and Behavioral Disorders, 13*, 213–223. doi:10.1177/106346605013004301

Stormshak, E. A., Connell, A. M., & Dishion, T. J. (2009). An adaptive approach to family-centered intervention in schools: Linking intervention engagement to academic outcomes in middle and high school. *Prevention Science, 10*, 221–235. doi:10.1007/s11121-009-0131-3

Stormshak, E. A., Connell, A. M., Véronneau, M.-H., Myers, M. W., Dishion, T. J., Kavanagh, K., & Caruthers, A. (2011). An ecological approach to promoting early adolescent mental health and social adaptation: Family-centered intervention in public middle schools. *Child Development, 82*, 209–225. doi:10.1111/j.1467-8624.2010.01551.x

Todd, A. W., Campbell, A. L., Meyer, G. G., & Horner, R. (2008). The effects of a targeted intervention to reduce problem behaviors: Elementary school implementation of check in–check out. *Journal of Positive Behavior Interventions, 10*, 46–55.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika, 38*, 1–10. doi:10.1007/BF02291170

Van Ryzin, M. J., & Dishion, T. J. (2012). The impact of a family-centered intervention on the ecology of adolescent antisocial behavior: Modeling developmental sequelae and trajectories during adolescence. *Development and Psychopathology, 24*, 1139–1155.

Van Ryzin, M. J., Stormshak, E. A., & Dishion, T. J. (2012). Engaging parents in the Family Check-Up in middle school: Longitudinal effects on family conflict and problem behavior through the transition to high school. *Journal of Adolescent Health, 50*, 627–633. doi:10.1016/j.jadohealt.2011.10.255

Verhulst, F. C., Koot, H. M., & Van der Ende, J. (1994). Differential psychometric validation of a brief teacher screening instrument. Available from ProQuest Dissertations and Theses. (Order No. 9519688)

Walker, H. M., & Severson, H. H. (1992). *Systematic Screening for Behavior Disorders (SSBD)*. Longmont, CO: Sopris West.