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School Psychologists' Knowledge and Use of Evidence-based, Social-Emotional Learning Interventions

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This article describes the results of a national survey pertaining to school psychologists' knowledge and use of evidence-based, social-emotional learning (SEL) interventions. For the study, 331 school psychologists responded to a survey that listed (a) techniques for identifying SEL interventions, (b) 16 SEL programs that have been identified by more than one source as having strong evidence for their effectiveness, and (c) factors that school psychologists may use for deciding on a program to use in their schools. Participants in the survey were asked to rate their opinions about selecting and using SEL interventions, as well as their knowledge and experience with various SEL programs that have received much research attention. Results of the survey indicated that school psychologists have limited awareness of the majority of published, evidence-based SEL programs. These results are of interest to school psychologists and other school personnel who make decisions about purchasing and implementing SEL programs. Implications for training and practice are discussed.

KEYWORDS: Evidence-based interventions, school psychologists, knowledge and use, social-emotional learning

One of the primary roles and responsibilities of school psychologists working in schools is to work with school staff (e.g., teachers, counselors) and parents to design effective interventions to address students' behavior problems (Merrell, Ervin, & Gimpel, 2006). Another responsibility school psychologists have is to ensure that the interventions they select have sufficient research-based evidence to increase the likelihood they will be effective for the individual with whom they are working (Kratochwill & Shernoff, 2004). Research-based evidence for interventions is gathered through multiple studies in which positive effects from the specific intervention under scrutiny have been demonstrated. Numerous groups (e.g., Collaborative for Academic and Social and Emotional Learning, Office of Juvenile Justice and Delinquency Prevention) have summarized existing intervention studies and have determined which intervention programs do and do not have strong evidence to support their effectiveness. It is unknown, however, if school psychologists actually use this information when selecting interventions or if so, how they determine which interventions to use. Thus, the purpose of this study is to contribute to the existing knowledge base about how school psychologists go about choosing and using research-based interventions for students experiencing social, emotional, or behavioral difficulties.

Practicing school psychologists often are the decision-makers in schools regarding the purchase and use of published intervention programs. As school budgets tighten, it becomes increasingly necessary to select programs that have the best evidence for effectiveness so school personnel and taxpayers do not feel that money and time are being wasted. An analysis of school psychologists' awareness and use of evidence-based, social-emotional interventions has important implications for preservice training, professional development, and ongoing practice. Resources in these areas should be devoted to best practices for ensuring positive outcomes for children and youth, and understanding the current state of practice is a first step.

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Published social/emotional/behavioral intervention programs exist that address the diverse needs of students. Many of these interventions have been well-researched to demonstrate their effectiveness with school populations. Others, however, have limited or no research to demonstrate their effectiveness. School psychologists are in a primary role to assist school administrators and other personnel in making decisions about effective programs to promote desired behavior in all students and to provide interventions for those students who need more direct social or behavioral skill instruction. As consultants and experts in behavioral theory and research, school psychologists have the skills to review programs and help determine the best ones to fit the local needs of a particular school. However, given that up to 70% of a school psychologists' time might be spent in activities such as assessment and consultation about individual students, little time is left for research reviews and large-scale program implementation (Bramlett, Murphy, Johnson, Wallingsford, & Hall, 2002).

SOCIAL AND EMOTIONAL LEARNING

As more and more children in schools exhibit mental health concerns and behavior difficulties, addressing their needs is a critical and expanding role of school psychologists (Doll & Cummings, 2008). Recently, there has been an important movement to develop and publicize research-based social/emotional/behavioral interventions for school psychologists and other school personnel to use (Greenberg et al., 2003). Zins and Elias (2006) call these interventions social-emotional learning (SEL) programs. They define SEL as "the capacity to recognize and manage emotions, solve problems effectively, and establish positive relationships with others" (p. 1). SEL requires the development of social, behavioral, and emotional skills. As such, SEL interventions target these skill areas. In addition to promoting children's social and emotional competency, SEL interventions also create learning environments that are safe, caring, and orderly (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2003). By enhancing students' social skills and creating environments that foster learning, SEL interventions indirectly promote better academic performance as students are more engaged in and connected to their schools. Numerous research studies have demonstrated that well-implemented, well-designed and sustained SEL programming can have a positive impact on youth outcomes (e.g., Cook, Murphy, & Hunt, 2000; Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991; Solomon, Battistich, Watson, Schaps, & Lewis, 2000). Students' attitudes (e.g., self-efficacy, respect for teachers, coping with school stressors), problem behaviors (e.g., poor attendance, class disruptions, poor class participation, substance use), and performance (e.g., academic skills, problem-solving skills) improve as a result of effective SEL programming (Greenberg et al., 2003; Zins & Elias, 2006).

EVIDENCE-BASED INTERVENTIONS (EBIs) DEFINED

Fortunately, there are many SEL programs in existence. Unfortunately, many claim to be effective, or "evidence-based," without sufficient empirical support to make such an assertion. The term "evidence-based" refers to the quality of the scientific evidence that is presented to demonstrate an intervention produces its intended effects (Hoagwood & Johnson, 2003). Numerous governmental and private agencies have created their own operational definitions of "evidence-based" and created web-based lists of programs that meet their standards (Appendix A contains of a list of several such agencies that rate SEL programs). However, the criteria used by the various agencies to rate programs may differ, as may the terminology they use to describe effective programs (McKevitt et al., 2009). As a result, a program rated very effective by one agency may not be as highly endorsed by another agency. Such discrepancies may cause confusion among practitioners and lead them to adopt a program that may have insufficient empirical evidence (McKevitt et al, 2009).

CURRENT PRACTICES IN EVIDENCE-BASED SEL INTERVENTIONS

Given the interest in the field for promoting EBIs and the legal mandates set forth by NCLB for using them, it seems evident that school psychology training programs and current practitioners should be addressing this issue.

Training. Increasingly, school psychology training programs are focusing on the use of EBIs (Shernoff, Kratochwill, & Stoiber, 2003). Students who have been trained to use evidence-based interventions are more likely to use them in practice and are more accountable for their services (Kratochwill & Stoiber, 2000). Shernoff et al., (2003) conducted a survey of school psychology training directors to assess the degree to which programs provided training in EBIs. They assessed program directors on their knowledge about EBIs, level of student exposure to EBIs, and the importance they placed on EBIs in their training programs.

Shernoff et al. (2003) found that although overall knowledge of individual EBIs was low, training directors placed great importance on the value of training EBIs. They also found that students were being taught criteria for determining what makes an intervention effective, but rarely had opportunities to apply this knowledge in practice. The authors concluded that training programs would benefit from more information about EBIs, and that it would be "critical to explore the interventions that practitioners are currently using in the field" to determine the extent such training is being applied (Shernoff et al., p. 481).

Practitioner Use. If school psychology training programs are not adequately teaching direct implementation of EBIs, then training on their use becomes a practice issue. Kratochwill and Shernoff (2004) called for the need to integrate EBIs into school psychology practice. They proposed several strategies to make this possible, including (1) developing a practice-research network in school psychology; (2) ensuring that EBIs are examined in school-based contexts; (3) establishing guidelines for practitioners to use and evaluate EBIs in practice; (4) encouraging professional development opportunities for practitioners; and (5) creating partnerships with other professional groups also examining EBIs (e.g., APA Division 12). However, the current state for EBIs in school-based SEL interventions is generally poor due to the complexities of the "selective and inconspicuous" interactions between classrooms, teachers, students, and behavior (Kehle & Bray, 2004, p. 420). Such complexities make effectiveness research very difficult for SEL interventions. Furthermore, Waas (2002) and Christenson, Carlson, and Valdez (2002) cautioned that adopting EBIs from various published lists (as described above) may squelch professional decision making and clinical judgment. Therefore, practitioners are left with the reality of schools (e.g., budget issues, teachers' willingness to implement interventions, complex student behavior problems) and pressures of legal mandates, yet the desire to design good interventions based on data and clinical judgment about individuals or groups of students.

This study addresses the current state of practitioners' knowledge and use of EBIs for social, emotional, and behavioral concerns. While Shernoff et al. (2003) addressed the training of EBIs in school psychology training programs, they were left wondering how that training plays out in practice, especially given all of the constraints and pressures faced by psychologists in today's schools. Therefore, this study seeks to answer the following research questions: (1) How do practicing school psychologists learn about effective SEL interventions? (2) Are school psychologists aware of and using existing evidence-based SEL interventions? (3) What factors influence a school psychologist's decision to use a particular intervention program?

METHOD

Participants

Practicing school psychologists who are members of the National Association of School Psychologists (NASP) were invited to participate in this study. A survey was mailed to 1,400 NASP members randomly selected from the NASP membership database. The mailing list was limited to NASP members who identified themselves as practitioners in pre-kindergarten through grade 12 settings. Student and affiliate members were not included in the sample. A total of 331 school psychologists returned surveys, representing a 23.6% return rate. School psychologists from 44 states responded to the survey, with the highest percentage of respondents (22.7%) from the East North Central region of the United States, followed by 17.5% from the Mid-Atlantic region and 16.6% from the South Atlantic region. These percentages mirror the percent of NASP members from these regions (Fagan & Wise, 2007), as well as

the percentage of school psychologists nationally from these regions (Charvat, 2005). The mean years of experience for participants was 13.08 years (*SD* = 9.5; Range = 1-36), with 89.1% employed in a public school district. Participants served an average of 3.21 school buildings (*SD* = 3.45; Range = 1-26) and had psychologist-to-student ratios of 1:1409 on average (*SD* = 1206.5; Range = 18-11,000). The highest percentage of respondents served grades 3-5 (76.1%), followed by K-2 (75.2%), 6-8 (60.4%), pre-K (49.2%) and 9-12 (47.7%). Seventy-seven percent of respondents' highest degree earned was a Master's or Specialist degree.

Survey

The survey instrument, the *Social/Emotional/Behavioral Intervention Survey*, was developed by the author for use in this study. The survey was divided into four parts. Part 1 contained 12 items requesting information about respondents' employment characteristics. Part 2 contained nine items asking respondents how they learn about evidence-based SEL interventions. For the purpose of the study, evidence-based interventions were defined as treatments, interventions, or services for which experimental research has established as effective. Respondents circled the frequency (1=*Never,* 2=*Sometimes*, 3=*Often*, 4=*Always*) with which they relied on various sources for learning about effective interventions (e.g., internet, journal articles, training, colleagues).

Part 3 of the survey contained 16 items that assessed respondents' knowledge and use of 16 published, evidence-based SEL programs. The list of interventions came from extensive reviews of several popular research synthesis organizations that rate the quality of SEL intervention programs. Only organizations that have U.S. government sponsorship and/or university affiliation were chosen to ensure quality. Furthermore, only school-based programs rated highly (i.e., they have strong research evidence for their effectiveness) by at least three organizations were included in the list. Appendix B includes a list of the programs included on the survey with a brief description of each one. These same descriptors were provided in the survey for the respondents. Appendix A contains a list of the research synthesis organizations consulted for the study with their websites. For each program, respondents indicated their level of familiarity with the program (not familiar, somewhat familiar, very familiar) and their use of the program (never used it, others I know used it, I have used it).

Part 4 of the survey addressed practitioners' decision-making about selecting interventions and contained five items. These items listed various dimensions to consider when selecting interventions (e.g., cost, personnel time required, training required) and requested respondents to rate their perceived level of importance for each dimension (not important, somewhat important, very important). Respondents also rank-ordered the importance for intervention selection of the five dimensions. Finally, respondents were invited to add any additional comments in an open-ended portion of the survey.

An initial draft of the survey was piloted by five school psychology practitioners with at least 10 years of experience in the field. These practitioners provided suggestions to clarify directions and ambiguous wording of items, and to rectify other formatting issues. Their comments and suggestions were included for the final version of the survey. The data from the pilot surveys were not included in the analyses.

Procedure

Computer-generated addresses of randomly selected NASP members were obtained following NASP's approval of the study. Paper copies of the survey were mailed to 1,400 members with a cover letter explaining the purpose of the study and respondents' rights as research participants. The cover letter also contained brief descriptions of the intervention programs included on the survey along with each program's author's name and publishing company's website. A postage-paid envelope was included with each survey. Due to resource limitations and confidentiality concerns, follow-up reminders were not mailed, nor were incentives for participation offered. Graduate student assistants entered data from all returned surveys into a computerized database, and results were analyzed descriptively.

RESULTS

How do School Psychologists Learn about Effective SEL Interventions?

Respondents rated their frequency of using several methods for learning about SEL interventions on a 4-point scale with choices ranging from 1= *never* to 4 = *always*. A high percentage of the sample (71%) often or always rely on professional development activities to gain information about effective SEL interventions (*M*=2.8, *SD*=.63). Relying on past experiences also was rated by a majority (57.4%) of respondents as common methods for learning about interventions (*M*=2.62, *SD*=.65). Less than a third of respondents (27.8%; *M*=2.26, *SD*=.66) always or often rely on journal articles for learning about interventions, which unfortunately is the most direct way for learning about the evidence base of many interventions. In addition, while there are many popular research synthesis organizations available on the internet to describe interventions and summarize their research base, only 34.7% of respondents consult internet resources regularly (*M*=2.28, *SD*=.68). Complete results pertaining to this question may be found in Table 1.

Table 1: *Frequency of Respondents' Use of Various Sources for Learning about SEL Interventions*

		Percent of Respondents Endorsing			
Method	Mean Rating (SD)	Always (4)	Often (3)	Some-times (2)	Never (1)
Professional Development Activities	2.80 (.63)	10.0	61.0	26.6	1.8
Rely on Past Experiences	2.62 (.65)	6.6	50.8	39.3	2.7
Colleagues and Supervisors Tell Me	2.38 (.71)	4.8	35.6	50.2	8.5
Read Intervention Books	2.38 (.66)	3.9	35.3	53.8	6.0
Consult Internet Resources	2.28 (.68)	3.0	31.7	54.7	10.0
Review Original Publication Materials	2.28 (.83)	9.4	24.5	49.8	15.1
Review Empirical Journal Articles	2.26 (.66)	4.8	23.0	64.4	7.3
Rely on Graduate Training	2.14 (.81)	4.8	26.0	46.5	22.1
Consult Magazines and Newsletters	1.64 (.64)	0.3	8.2	45.9	45.0

To further explore this question, mean scores for each method of obtaining information about SEL interventions were compared by region and years of experience. No significant differences among regions were found in how practitioners learn about SEL programs, with the exception of reliance on graduate training. In this instance, practitioners from the East South Central Region relied significantly more on their graduate training than practitioners in other regions, $F(8, 319) = 2.378$, $p = .017$. For years of experience, there was an expected significant difference in reliance on graduate training, with those with less than 5 years of experience relying on their training significantly more than other practitioners, $F(3, 322) = 27.503$, $p < .01$. No other differences among years of experience were found.

Are School Psychologists Aware of and Using Existing Evidence-Based SEL Interventions?

To assess school psychologists' awareness of SEL interventions, respondents rated their level of familiarity on a 3-point scale (1=*not familiar/never heard of it;* 2=*somewhat familiar/heard of it but don't know a lot about it;* 3=*very familiar/heard a lot about it*) with 16 published evidence-based SEL

interventions. Table 2 shows the percentage of respondents who indicated if they were not familiar, somewhat familiar, or very familiar with the listed intervention programs. Overall, results show little knowledge about most published interventions. Interventions with the most familiarity (i.e., highest percentage of respondents indicating "very familiar") were *Second Step* (28.7% were very familiar), *I Can Problem Solve* (21.8%), *Good Behavior Game* (19.9%), *Olweus Bully Prevention Program* (18.4%), and *Project ACHIEVE* (11.8%). Interventions with the least familiarity (i.e., highest percentage of respondents indicating "not familiar") were *Responding in Peaceful and Positive Ways* (93.4% were not familiar), *Linking the Interests of Families and Teachers* (92.7%), *Al's Pals* (91.5%), *Lion's Quest* (83.4%), *Child Development Project/Caring School Community* (81.6%), *High/Scope* (74.3%) and *Social Decision Making/Problem Solving Program* (71.9%).

Table 2: *Percentage of Respondents' Level of Familiarity and Level of Use of SEL Interventions*

	Level of Familiarity			Level of Use		
Program	Not Familiar	Somewhat Familiar	Very Familiar	Never Used It	Others I Know Use It	I have Used It
Al's Pals	91.5	7.3	0.6	94.6	1.2	0.9
Olweus Bully Prevention Program	35.6	45.0	18.4	64.0	21.5	12.4
Child Development Project	81.6	14.2	3.6	89.4	3.6	3.6
Good Behavior Game	38.4	40.8	19.9	61.0	19.9	17.5
High/Scope	74.3	17.8	6.9	81.9	11.2	3.9
I Can Problem Solve	39.0	38.7	21.8	61.3	16.3	20.5
Linking the Interests of Families & Teachers	92.7	6.3	0	95.5	2.7	0
Lion's Quest	83.4	13.0	3.3	90.0	5.1	2.7
PeaceBuilders	59.5	31.1	9.4	75.8	16	5.7
Peace Makers	65.9	28.4	5.1	79.2	13.6	4.5
Project ACHIEVE	48.3	39.9	11.8	72.8	18.4	6.0
Promoting Alternative Thinking Strategies	60.1	33.5	6.3	81.6	1.8	5.1
Responding in Peaceful Positive Ways	93.4	5.1	1.2	92.4	2.7	1.5
Second Step	49.8	21.5	28.7	58.0	15.7	24.2
SOAR, The Seattle Social Development Project	69.8	27.2	2.7	85.8	10.9	1.2
Social Decision Making/ Problem Solving Program	71.9	21.5	6.0	82.2	7.9	6.9

Table 2 also shows the percentage of respondents indicating their level of use of each intervention program (1=*never used it,* 2=*others I know use it,* 3=I *have used it or have worked with others to implement it.*) Again, results show little use of most intervention programs. Interventions that respondents reported using most include *Second Step* (used by 33.9% of respondents), *Good Behavior Game* (37.4%), *I Can Problem Solve* (36.8%), *Olweus Bully Prevention Program* (33.9%), and *Project ACHIEVE* (24.4%). Interventions that have never been used by respondents were *Linking the Interests of Families and Teachers* (never been used by 95.5% of respondents), *Al's Pals* (94.6%), *Responding in Peaceful Positive Ways* (92.4%), *Lion's Quest* (90%) and *Child Development Project/Caring School Community* (89.4%).

One might hypothesize that those who reported they regularly read empirical articles to learn about SEL interventions would be more knowledgeable about them. Those who rated themselves as reading journal articles *often* or *always* (n = 237) were analyzed in the same manner described above for the total sample. There were virtually no differences between those who relied on empirical articles and those in the entire sample in levels of familiarity and use on any program. The same hypothesis was made for those who consult internet resources *often* or *always* (n = 115). This group was somewhat or very familiar with a higher percentage of programs than the total sample, indicating that web resources are a useful means for promoting knowledge about interventions. For example, of the total sample, 21.8% of respondents were very familiar with *I Can Problem Solve*, while 30.4% of those who frequently rely on web resources were *very familiar* with the program.

What Factors Influence a School Psychologist's Decision to Use a Particular Intervention Program?

Finally, respondents were asked to rate and rank the importance of five factors to consider when selecting interventions. Respondents used a 3-point scale (1=*not important,* 2=*somewhat important,* 3=*very important*) to rate importance of each factor, and then were asked to rank that factor (1-5) among the other factors. A majority of respondents indicated that research support for the program's effectiveness and personnel time required to implement the intervention were two very important factors to consider (79.8% and 66.2% rated these items as very important, respectively). Furthermore, these same items were also ranked as most useful among the five factors. Program cost was endorsed as very important by only 37.8% of respondents, while success of intervention for colleagues was ranked as the least useful factor to consider. See Table 3 for complete data relevant to respondents' decision-making about intervention use.

Table 3: *Rankings and Importance Ratings Pertaining to Respondents' Decision Making about Intervention Use*

Factor to Consider	Mean Ranking (SD)	Percent Indicating Very Important	Percent Indicating Somewhat Important	Percent Indicating Not Important
Research support for the program's effectiveness	2.15 (1.5)	79.8	17.2	.03
Personnel time required to implement	2.71 (1.1)	66.2	30.2	1.2
Amount of training required	3.14 (1.1)	48.9	46.8	1.8
Cost of program	3.36 (1.4)	37.8	54.7	5.1
Whether program worked for colleagues	3.55 (1.5)	40.2	49.5	7.9

Note. For rankings, 1=*most important;* 5=*least important*

Anecdotal Information from Open-Ended Comments

Respondents also were invited to add any comments to the survey, and 43 respondents chose to do so. The following were common themes that emerged from the anecdotal comments: (1) School psychologists in the district do not implement SEL interventions; (2) school psychologists in the district only test; (3) respondents used other interventions that were not listed, such as school-wide positive behavior support; (4) individuals, schools, or districts make their own programs and do not rely on published interventions; (5) preparation for the state test is emphasized over SEL interventions; and (6) interventions used are theory-based, not research-based.

Interestingly, the first two themes listed above have to do with school psychologists' roles and functions. It is possible that the majority of respondents had limited roles with SEL intervention planning and implementation. However, findings from the survey refute this supposition. As part of the survey, respondents were asked to rate their percentage of time engaged in typical school psychology activities. Across all respondents, direct assessment was listed as the most frequent activity (M=33.34% of time spent, SD=18.2), followed by paperwork/report writing (M=24.01%, SD=14.6), consulting with teachers/parents on social/emotional/behavioral issues (M=15.04%, SD=9.4), and direct intervention on social/emotional/behavioral issues (M=13.68%, SD=11.6). So, while it is evident that there may be some school psychologists with limited involvement in SEL issues, respondents reported over a quarter of their time, on average, addressed SEL consultation and interventions. This finding emphasizes the importance of selecting and using evidence-based interventions if so much time is spent with SEL issues.

Three of the four remaining themes pertained to the issue of the types of interventions implemented in schools. While it is difficult to generalize from these anecdotal comments, it seems likely there are school personnel who either (a) do not value evidence-based interventions or (b) find their own commonly used interventions to be more desirable than published programs. Obviously what is ultimately important is the effectiveness of an intervention on individual or group behavior change. If practitioners take care to document effectiveness of any intervention implemented, then whether a program has published empirical support is of less importance. Still, prior evidence for effectiveness enhances the likelihood an intervention will be successful.

DISCUSSION

This study examined practitioners' awareness and use of several published evidence-based SEL interventions, as well as their decision making about choosing and using SEL interventions. It is intended to shed light on the current state of practice with regard to EBIs for social, emotional, and behavioral concerns.

Familiarity with and Use of Evidence-Based SEL Interventions

In general, school psychologists surveyed in the current study were not well-informed about evidence-based, published SEL interventions. Professional development was the highest endorsed method for learning about EBIs, with 71% of practitioners often or always relying on these activities for learning about effective SEL interventions. Less than one-third of respondents indicated they used journal articles or internet resources regularly to learn about EBIs, although those who used internet resources were more knowledgeable about the interventions.

These findings have major implications for the promotion of evidence-based intervention in practice. First, one cannot assume that just because someone lists a study on a website or publishes an effectiveness study that then the intervention will be widely consumed. Clearly, most practitioners are not relying on their own research and investigation to identify desired SEL programs. Second, along with consulting with colleagues, professional development was the preferred way for gaining information about EBIs. Therefore, professional development activities must contain information related to the selection and use of EBIs in practice and numerous opportunities must exist for practitioners to engage in these activities.

According to the survey, there are many evidence-based SEL interventions in existence that are not being used commonly; such interventions may be a better match for students and schools than those that are more heavily promoted and used. In the current study, eight out of the 16 programs listed were unknown by at least 50% of respondents and all but one were never used by more than 60% of those surveyed. For example, *Promoting Alternative Thinking Strategies* (PATHS) is an intervention that has very strong evidence for its effectiveness and is frequently cited as a model program on numerous research reviews. Yet, in the current study, 60% of psychologists surveyed were not familiar with it. Clearly more professional development and awareness activities are needed to ensure that good, well-researched programs are used.

It is important to note, however, that practitioners should not blindly recommend or purchase a program based solely on its website reviews. Practitioners must consider the program's match to the specific needs of the school and the student population. Schools are very complex organizations, and purchasing a major SEL program may require systemic supports (e.g., staff buy-in, administrator support) that need to be in place to ensure success. Furthermore, the effectiveness research may have been conducted on students whose demographic characteristics are unlike those in a practitioner's school, thus putting into question the match between the program and students. Practitioners are encouraged to thoroughly review program information and take into account the ecology of the school when making decisions about selecting SEL programs.

Selection of Evidence-Based SEL Interventions

Practitioners reported that effectiveness research is the most important factor behind the decision to use a particular program. However, as noted earlier, less than one-third of respondents rely on reading empirical journal articles to learn about the research supporting various programs. It may be the case that practitioners do not have easy access to professional journals, and if they do, minimal time to read them. Fortunately, NASP members have access to *School Psychology Review* and the EBSCO Online Library as ways to access empirical information related to SEL programs. Professional development time could be devoted to reading and reviewing empirical studies so practitioners can engage in discussion about programs and their potential uses.

Time required to implement the program was the second most important factor noted in deciding to use a program. This finding indicates a need to create programs that are not time and resource intensive, especially in terms of personnel and training requirements. Is it possible to have a resource-conservative, yet highly effective SEL program? As programs continue to be developed and investigated, developers should keep decision-making factors examined in this study in mind and attempt to meet the needs practitioners express so that evidence-based SEL programs will actually be implemented well, with integrity and effectiveness. In the meantime, practitioners can continue to rely on colleagues, professional development workshops, and journal articles to make careful decisions about selecting and using evidence-based interventions.

LIMITATIONS AND DIRECTIONS FOR FURTHER RESEARCH

There are several limitations that may impact the interpretation of the findings of this study. First, the study was limited to only NASP members. The use of the NASP membership database may be considered a limitation because not all school psychologists are NASP members. While NASP membership represents approximately 50% of school psychologists nationally (Fagan & Wise, 2007), non-NASP members may have different experiences with evidence-based SEL interventions. However, the NASP database was the most efficient way to sample a large number of school psychologists for the study. Furthermore, based on the demographic data completed by the respondents, it appears the sample was representative of overall NASP membership in terms of geographic representation, years of experience, location of practice, employer, highest degree, psychologist-to-student ratio, and number of buildings served.

A second limitation is that *only* school psychologists were invited to participate in the survey. As

noted in some of the open-ended responses on the survey, it may be the case that school counselors or school social workers are in charge of SEL programming and that they may have better knowledge of the SEL interventions in existence. It is also possible that respondents were less familiar with interventions that were not made for the populations they served. As evidenced in the program descriptions in Appendix B, most of the programs serve elementary-age students. While the majority of respondents to the survey served elementary grades, slightly less than half had high school as all or part of their assignment, potentially impacting their awareness of several of the programs listed.

As with many surveys, the response rate (23.6%) in the present study may be considered a limitation. Care was made to ensure the sample represented a national sample of school psychologists, but it is possible that those who did not return surveys had different experiences with SEL interventions than those who responded. In addition, as some of the open-ended comments noted, some school psychologists still have testing as their primary duty, so they may have chosen not to complete the survey, thus potentially impacting the results.

Next, this study only attempted to measure practitioners' perceived awareness of SEL interventions and not their actual knowledge of program goals, contents, and outcomes. As such, the self-report nature of the survey may not provide accurate representations of how much practitioners actually *know* about specific programs. Future research should consider a more thorough analysis of practitioners' insights about the specifics of SEL programs to gain a perspective about what features of programs practitioners pay attention to and use when making decisions about program implementation.

Finally, it is important to note that this study only included published SEL programs that appeared on at least three popular research synthesis agency websites. Other behavioral intervention strategies exist than those that are published and manualized. Such strategies (e.g., school-wide positive behavior support, contingency management) also have solid research bases and are excellent interventions that are commonly used. However, the purpose of this study was to link school psychologists' knowledge and use of SEL interventions with the EBI movement that seeks to identify and promote only those interventions that have manualized procedures and high quality studies with multiple replications demonstrating effectiveness. In this case, it is evident from the current study that most school psychologists surveyed are not aware of, nor are they using, published evidence-based SEL interventions.

RECOMMENDATIONS FOR SELECTING EVIDENCE-BASED SEL INTERVENTIONS

Given the need for more awareness about SEL interventions, practitioners are encouraged to review the research synthesis organizations used in this study. They are useful not only for describing programs, but also for providing a framework one might use to evaluate programs independently. In addition, practitioners can request specific professional development opportunities related to gathering more information about SEL programs. For example, a group of practitioners might request professional development time to read and discuss journal articles, or they might ask a local organization to invite a speaker about SEL programming for a conference. Finally, practitioners can work with local training programs to learn about interventions and provide opportunities for graduate students to practice and use various programs in applied learning experiences.

CONCLUSIONS

School psychologists are committed to enhancing the social, emotional, behavioral, and academic lives of children. The use of evidence-based SEL interventions is one way to do so. As a field, school psychology has taken important steps to identify the importance of promoting and using evidence-based interventions that have strong research for their effectiveness. While there continues to be controversy about the use of EBIs, especially in terms of the danger of reducing individual decision making and autonomy about interventions, published EBIs may be effective and efficient ways for school psychologists to enhance their roles as interventionists. Now, school psychologists themselves need to take the next stop of actually learning about and using those interventions. School psychologists are in an excellent position of become familiar with the range of interventions available due to their expertise in

research interpretation, behavior, consultation, and intervention development and evaluation. Using this knowledge and expertise to select interventions that have the most likelihood for success with individuals or groups of students will enhance the services that they provide and produce desirable outcomes for the children they serve.

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APPENDIX A

Research Synthesis Websites Consulted for Program Identification

- Blueprints for Violence Prevention: http://www.colorado.edu/cspv/blueprints/
- Collaborative for Academic, Social, and Emotional Learning: http://www.casel.org/
- Office of Juvenile Justice and Delinquency Prevention: http://www.ojjdp.gov/mpg/
- Office of Safe and Drug Free Schools: http://www.ed.gov/admins/lead/safety/exemplary01/exemplary01.pdf
- Substance Abuse and Mental Health Services Administration, National Registry of Evidence-based Programs and Practices: http://nrepp.samhsa.gov/
- What Works Clearinghouse: http://ies.ed.gov/ncee/wwc/

Note. All websites are accurate as of September 28, 2011.

APPENDIX B

List of Intervention Programs on the Survey

Program	Description	Author	Website
Al's Pals	An early childhood intervention program based on a resiliency framework designed to develop personal, emotional, and social skills. Target age: Early childhood	Susan Geller	www.wingspanworks.com
Bully Prevention Program (Olweus)	A comprehensive, school wide program designed for elementary and jr. high students. Primary goals of the program are to reduce and prevent bullying problems among school children and to improve peer relations at school. Target age: Elementary and middle school	Dan Olweus	www.clemson.edu/olweus/
Child Development Project (Caring School Community Program)	A multi faceted school-change program focused on creating caring, supportive learning environments that foster students' sense of belonging and connection to school. Target age: Grades 5-12	Eric Schaps	www.devstu.org/caring-school-community
Good Behavior Game	A classroom management strategy designed to improve aggressive/disruptive classroom behavior and prevent later criminality. Target age: Elementary	Sheppard Kellam	www.hazelden.org
High/Scope Curriculum	Curriculum framework that seeks to contribute to children's intellectual, social, and physical development so they can achieve success and social responsibility in school and life. Target age: Early childhood	Various	www.highscope.org
I Can Problem Solve	A violence prevention program that helps children thinks of nonviolent ways to solve everyday problems. Target age: Preschool to upper elementary	Myrna Shure	www.researchpress.com
Linking the Interests of Families and Teachers (LIFT)	An intervention program that prevents the development of aggression and antisocial behavior. Target age: Grades 1-5	John Reid	www.oslc.org
Lion's Quest	Works with educators, parents, and community members to help adolescents develop social and emotional skills, good citizenship skills, positive character, skills to remain drug free, and the ethic of service to others. Target age: Grades 6-8	Susan Keister	www.lions-quest.org
PeaceBuilders	A school-wide violence prevention program in which staff and students change the school climate to promote prosocial behavior. Target age: Grades K-8	Peace Partners, Inc.	www.peacebuilders.com
Peace Makers	A violence reduction intervention program that reduces physical violence and verbal aggression, and increases positive interpersonal behavior. Target age: Grades 4-8	Jeremy Shapiro	www.applewoodcenters.org
Project ACHIEVE	A program that works to improve school and staff effectiveness and places a particular emphasis on increasing student performance in the areas of social skills/social emotional development, conflict resolution, academic progress, and positive school climate. Target age: Elementary and middle school	Howard Knoff	www.projectachieve.info
Promoting Alternative Thinking Strategies (PATHS)	Curriculum that teaches the five areas of social and emotional development: self-control, emotional understanding, self-esteem, peer relations, and interpersonal problem-solving. Target age: Grades K-6	Carol Kushé, Mark Greenberg	www.channing-bete.com
Responding in Peaceful and Positive Ways (RIPP)	A violence prevention program designed to teach middle school and junior high students conflict resolution strategies. Target age: Grades 6-8	Wendy Northup and Aleta Meyer	www.preventionopportunities.com
Second Step	A violence prevention program that develops social and emotional skills in students. Target age: Grades Pre-K to 9	Committee for Children	www.cfchildren.org
SOAR, The Seattle Social Development Project	A comprehensive program that provides social skills training and promotes positive youth development and academic success. Target age: Grades 1-6	J. David Hawkins	www.channing-bete.com
Social Decision Making/Problem Solving Program	A social-emotional program that trains children in social and decision making skills to handle social and emotional stress in healthy ways. Target age: Grades K-8	Maurice Elias &Linda Bruene Butler	www.umdnj.edu/spsweb

Note. All websites are accurate as of September 28, 2011.