The present study examined problem characteristics of students with emotional disturbance in 3 educational environments, the behavior management and intervention strategies their teachers used, and what relation exists between problem characteristics and intervention strategies. Teachers completed a behavior problems rating scale and they indicated how frequently they used 15 strategies to address academic, externalizing, and internalizing problems. There were significant differences across environments for only 1 characteristic of emotional disturbance, physical symptoms or fears. Teachers in general education settings mainly addressed academic problems; resource/separate classroom educators used instructional, positive, and reductive strategies for academic and externalizing problems and verbal reinforcement for internalizing problems. Separate school educators used a variety of strategies consistently for all 3 problems. Implications for supporting students with emotional disturbance across educational environments are discussed.

Keywords: behavioral strategies, continuum of services, educational settings, emotional behavioral disorders, teacher perceptions

The letter and the spirit of Individuals with Disabilities Education Act 2004 indicate the desirability of an inclusive educational environment for all students with disabilities, including those with emotional disturbance (ED). To this end, a decade ago, the Office of Special Education Programs (U.S. Department of Education, 2000) set a goal that by 2000–2001, 50% of all students with disabilities would be taught in regular education classrooms at least 80% of the day. Over the past 10 years, students with ED continue to fall far short of this target. Recent national data show that whereas 57% of all students receiving special education met the goal, only 37% of students with ED experienced this level of inclusion (U.S. Department of Education, National Center for Education Statistics, 2009).

Although educators may agree that best educational practice should be more important than any particular educational placement (Kauffman, 2010), Zigmond, Kloo, and Volonino (2009) pointed out that the significance of the where of special education has been highlighted since the full implementation of PL 94–142 by the yearly placement requirements for the Annual Reports to Congress.

In addition, an analysis of educational environments for students with ED between 1989 and 1998 revealed an increasing trend toward more inclusive settings, although movement toward less restrictive environments has been far slower than for students with disabilities overall (Landrum, Katsiyannis, & Archwamety, 2004). Despite these and more current placement data (U.S. Department of Education, 2009), students with ED need to be assured of access to the general curriculum and provided with sound education and support in whatever environment they are taught.

Although previous research has shown that students with ED experience serious problems in each of the five characteristics identified by the federal definition (Cullinan & Sabornie, 2004; Nelson, Benner, Lane, & Smith, 2004; Wagner, Kutash, Duchnowski, Epstein, & Sumi, 2005), the interaction between characteristics and educational environment is less clear. Studies have compared students with school-identified ED taught in different settings on one or several characteristics with inconsistent outcomes. Overall, no substantive trend of the benefit (or detriment) of one educational environment has been established indicating that the characteristics of ED consistently correlate with students’ experience in a particular educational environment. For example, Lane, Wehby, Little, and Cooley (2005) found that students with ED and other disabilities...
in self-contained classrooms scored significantly higher on standardized achievement tests than did those in a self-contained school; however, there was no significant difference between teacher ratings of the two groups on a measure of academic competence. In other studies (Meadows, Neel, Scott, & Parker, 1994; Muscott, 1997), teachers rated students with ED in resource settings no differently than students with ED in self-contained classrooms on measures of social assertiveness, social competence, and social withdrawal. On measures of aggression or acting out, students in general and resource classes were rated as having less severe problems than were students in self-contained classes or schools in one study (Robinson et al., 1998). In contrast, Lane et al. (2005) found no significant difference between two groups for aggressive/acting out behavior. Conflicting results have been reported overall and for items associated with internalizing behavior problems as well. In one study (Robertson, 1998), teachers rated students with ED in general and resource classrooms with significantly lower scores (fewer, less severe problems) for internalizing behavior than students with ED in self-contained classrooms or schools. In another study (Meadows et al., 1994), mainstreamed boys were rated significantly lower on internalizing problems than were nonmainstreamed boys overall, but no difference between groups was reported for the items happy and anxious.

Because students with ED are being taught across the continuum, it is important to investigate what strategies teachers use to address their challenges. Research studies have shown that teachers use a variety of interventions. For example, in a survey of general and special educators, Martens, Peterson, Witt, and Cirone (1986) found that redirection was used significantly more often than token or tangible reinforcement, response cost, altering the physical environment, consultation, time-out in the classroom, or in-school detention. Teacher responses were not reported by educational environment; however, the authors determined after an informal comparison that there were few differences according to teacher groups. Kaff, Zabel, and Milham (2007) asked special educators to rank-order behavior management strategies they most likely would use for students with ED and to speculate which strategies general educators would most likely use. Those rated most likely to be used by special educators included establishing rules and routines; verbally encouraging, praising, and modeling appropriate behavior; and using gestures and proximity control. These special educators thought general educators would most likely use verbal praise, rules, routines, grades or recognition for achievement. They would manage problems with verbal reprimands, seating arrangement, or removal of problem objects. As with the previous study, responses were combined for all teachers, rather than disaggregated by classroom setting. Most recently, Westling (2010) reported survey results for special education teachers and general education teachers, including the frequency of strategies used to deal with challenging behavior (e.g., defiance, disruption, aggression, self-injury, social withdrawal). Although this study presented findings by teacher group, only a small percentage of the educators taught students with ED. More than 50% of special educators stated they identified triggers, reinforced desired behavior, used social reinforcement, and changed interactions with students often or very often. In contrast, 41% of general educators reported using only one of these strategies, reinforcement of desired behavior, often or very often. The strategies used most frequently by general educators were (a) changing classroom arrangements or conditions and (b) changing curriculum or teaching approach.

Additional information is needed about interventions and practices used by teachers of students with ED, especially as they differ according to the educational environment in which they are delivered. If there are differences across placements in practices used, logic suggests that such differences might be conditioned in part by student behavioral and emotional problems, the general nature of which may vary by placement (although research to date has produced mixed evidence of such). Thus, the twofold purpose of the present study was to determine (a) whether there were significant differences in teacher perceptions of students with ED across educational environments, including regular/general education classrooms, resource/separate special education classrooms, and a public separate special education school; and (b) what strategies general education and special education teachers used most frequently to support students with academic, externalizing, and internalizing problems.

Method

Participants

Teachers from 36 schools in a rural school district in the southeastern United States were recruited for this study. Eligible participants included 94 K–12 educators who taught students with school-identified ED. General education teachers were those who taught students with Individualized Education Programs (IEPs) that indicated they received special education services <21% of the school day. In the elementary school grades, general education teachers who spent the most time with these students were asked to participate. At the middle school and high school levels, English/language arts teachers were asked to participate. Special education teachers were those who taught students with IEPs that indicated they received special education services 21–100% of the school day in resource, separate classroom, or separate school environments. In this district, special education teachers at general education schools typically taught students with ED in both resource and separate classrooms, so this category was combined in the analysis. Twenty teachers completed surveys, a 21% return rate. General education teachers comprised 35% of the sample. Of the special education teachers who responded,
Table 1. Teacher Demographics by Educational Environment

<table>
<thead>
<tr>
<th></th>
<th>Regular/general education classes taught by general education teachers (n = 7)</th>
<th>Resource or separate classes taught by special education teachers (n = 7)</th>
<th>Separate school classes taught by special education teachers at a public separate school (n = 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>86%</td>
<td>86%</td>
<td>67%</td>
</tr>
<tr>
<td>Male</td>
<td>14%</td>
<td>14%</td>
<td>33%</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>29% Black, 71% White</td>
<td>71% Black, 29% White</td>
<td>100% White</td>
</tr>
<tr>
<td>Average years taught</td>
<td>14.5</td>
<td>8.4</td>
<td>12.6</td>
</tr>
<tr>
<td>Licensure level</td>
<td>14% provisional, 43% initial, 43% not reported</td>
<td>14% provisional, 29% initial, 57% master’s</td>
<td>17% provisional, 83% initial</td>
</tr>
<tr>
<td>Behavioral/emotional disabilities licensure</td>
<td>0%</td>
<td>43%</td>
<td>100%</td>
</tr>
</tbody>
</table>

35% taught in resource or separate classrooms in general education schools, and 30% taught in a separate public school for students with ED. Table 1 provides a summary of teacher demographic information for each educational environment.

**Instrument: Two-part survey**

**Student characteristics.** The teachers completed a student characteristics survey for one or several students with ED in their classrooms. The survey included student demographic information and a 39-item rating scale adapted by permission of the authors from the *Scale for Assessing Emotional Disturbance* (SAED; Epstein & Cullinan, 1998). This scale is a standardized, norm-referenced instrument with previously reported good concurrent and convergent validity and test–retest and interrater reliability (Cullinan, Harniss, Epstein, & Ryser, 2002; Epstein, Cullinan, Harniss, & Ryser, 1999; Epstein, Nordness, Cullinan, & Hertzog, 2002). It operationalizes the federal definition of emotional disturbance by providing subscale scores for each of the five characteristics of ED. The adapted survey used in the present study included only the 39 items associated with the five characteristics of ED. Teachers rated each item on a 4-point Likert-type scale ranging from 0 (*not a problem*) to 3 (*severe problem*).

**Teacher strategies.** The teacher strategies survey included demographic information (see Table 1) and a list of 15 behavioral strategies compiled by reviewing current evidence-based literature and teacher survey research (Burns & Ysseldyke, 2009; Kerr & Nelson, 2010; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008), and by soliciting suggestions from experts and practitioners in the field of ED. Short explanations were provided for some strategies that teachers may use but may not be familiar with the technical term (e.g., *response cost*, meaning loss of privileges for rule-breaking). For each behavioral strategy, teachers indicated if they *never*, *sometimes*, or *frequently* used it to address academic problems (e.g., learning, attention, engagement), externalizing problems (e.g., defiance, aggression, noncompliance), or internalizing problems (e.g., anxiety, unhappiness, depression) for their students with ED. Space was provided for teachers to list additional strategies and indicate how frequently they were used for each problem area.

**Procedure**

At a monthly district meeting, special education coordinators were provided with packets to distribute to the general and special education teachers of students with ED. The teacher packets included an introduction letter, instructions, two copies of the consent form, multiple copies of the surveys, and two stamped envelopes addressed to the first author. Two follow-up e-mails were sent as reminders to teachers. Teacher and student names were not included on the surveys, and the consent form was returned in a separate envelope. A $5.00 gift certificate was mailed to the teachers who returned the consent form as a thank you for their time.

**Results**

**Student characteristics**

A total of 51 student characteristic surveys were returned. Two surveys did not include student age, which is necessary for calculating standardized scores on the SAED, so they were dropped from the analysis. Five surveys included a single missing teacher strategies response, which was coded as *never*. Student demographic information for the 49 usable surveys is presented in Table 2.

Raw scores were calculated for each of the five subscales and then converted to standard scores (*M* = 10, *SD* = 3), using the ED normative tables in the SAED Manual (for more information, see Epstein & Cullinan, 1998). Table 3 provides the mean scores and standard deviations for each characteristic of ED across three educational environments. Teacher perceptions in each setting were generally
Teacher Perceptions and Strategies

Table 2. Student Demographics by Educational Environment

<table>
<thead>
<tr>
<th></th>
<th>Regular/general education classes taught by general education teachers (n = 7)</th>
<th>Resource or separate classes taught by special education teachers (n = 17)</th>
<th>Separate school classes taught by special education teachers at a public separate school (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>0%</td>
<td>23%</td>
<td>4%</td>
</tr>
<tr>
<td>Male</td>
<td>100%</td>
<td>77%</td>
<td>96%</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>86% Black, 14% White</td>
<td>82% Black, 18% White</td>
<td>80% Black, 8% White, 12% other</td>
</tr>
<tr>
<td>Grade level</td>
<td>43% elementary, 57% secondary</td>
<td>29% elementary, 71% secondary</td>
<td>56% elementary, 44% secondary</td>
</tr>
<tr>
<td>Age in years, M (SD)</td>
<td>11.43 (3.87)</td>
<td>14.50 (3.41)</td>
<td>10.76 (2.42)</td>
</tr>
</tbody>
</table>

Note. All students were school-identified with serious emotional disabilities.

comparable to the ratings in the SAED national normative sample.

An unequal number of surveys were returned for each setting, and a preliminary examination of the data revealed that the assumption of a normal distribution was not met. As a result, an analysis of variance comparing the mean scores for each group was not appropriate. Instead, we used the Kruskal-Wallis test because this nonparametric measure does not require the assumption of a normal distribution (Gibbons, 1993). Because each subscale represents a separate area for ED identification under federal law (Epstein & Cullinan, 1998), the subscales were analyzed individually with a p value of .05.

The results of the Kruskal-Wallis test indicated there were no significant differences in the mean ranks across the three settings for four characteristics of ED: inability to learn, relationship problems, inappropriate behavior, and unhappiness or depression. There were statistically significant differences across the settings for the physical symptoms or fears subscale (see Table 4). We used a nonparametric post hoc analysis with the Mann-Whitney test to determine significant differences between groups. Because multiple tests were conducted with the same dependent variable, we used a Bonferroni correction to protect against Type 1 error (Field, 2005). The p value of .05 was divided by the number of tests needed to compare the groups (n = 3) to obtain the corrected p value of .017. There was a significant difference between scores of students in resource/separate classrooms and the public separate school (U = 101.50, z = −2.87, p = .004). The effect size of r = −.41 indicated a medium effect for setting related to the physical symptoms or fears subscale. Teachers in resource or separate classrooms in general education schools perceived their students as having fewer or less severe physical symptoms and fears (e.g., complaints of physical problems, anxiety) than did teachers of students in the public separate school.

Teacher strategies

We compiled a list of frequently used strategies for three problem areas, academic, externalizing, and internalizing behavior, in each setting. To be included in the “frequently used” list, at least 50% of the teachers in a setting had to report that they use the strategy frequently (see Table 5). Several teachers did not indicate an answer for individual strategies or types of behavior problems. It was assumed that teachers did not use unmarked strategies, and these missing responses were recorded as never.

At least 50% (n ≥ 4) of general education teachers reported frequently using five strategies for academic

Table 3. Student Characteristics Across Educational Environments

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Regular/general education classes taught by general education teachers (n = 7)</th>
<th>Resource or separate classes taught by special education teachers (n = 17)</th>
<th>Separate school classes taught by special education teachers at a public separate school (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inability to learn</td>
<td>10.57 (4.69)</td>
<td>12.76 (2.95)</td>
<td>10.96 (2.84)</td>
</tr>
<tr>
<td>Relationship problems</td>
<td>8.43 (4.16)</td>
<td>9.24 (3.36)</td>
<td>9.36 (3.00)</td>
</tr>
<tr>
<td>Inappropriate behavior</td>
<td>9.57 (3.95)</td>
<td>8.94 (3.56)</td>
<td>9.48 (3.22)</td>
</tr>
<tr>
<td>Unhappiness or depression</td>
<td>9.00 (2.65)</td>
<td>9.88 (3.22)</td>
<td>10.64 (2.77)</td>
</tr>
<tr>
<td>Physical symptoms or fears</td>
<td>9.29 (3.09)</td>
<td>7.82 (3.30)</td>
<td>10.68 (3.19)</td>
</tr>
</tbody>
</table>

Note. Standard score means were derived from raw scores and from the Scale for Assessing Emotional Disturbance national norms for students with emotional disturbance (M = 10, SD = 3).
Table 4. Kruskal-Wallis Test, by Mean Ranks for Student Characteristics Across Educational Environments

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Regular/general education classes taught by general education teachers (n = 7)</th>
<th>Resource or separate classes taught by special education (n = 17)</th>
<th>Separate school classes taught by special education teachers at a public separate school (n = 25)</th>
<th>H</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inability to learn</td>
<td>22.50</td>
<td>29.76</td>
<td>22.46</td>
<td>2.94</td>
<td>.231</td>
</tr>
<tr>
<td>Relationship problems</td>
<td>22.21</td>
<td>24.88</td>
<td>25.86</td>
<td>0.36</td>
<td>.835</td>
</tr>
<tr>
<td>Inappropriate behavior</td>
<td>26.71</td>
<td>22.91</td>
<td>25.94</td>
<td>0.57</td>
<td>.750</td>
</tr>
<tr>
<td>Unhappiness or depression</td>
<td>19.21</td>
<td>23.74</td>
<td>27.48</td>
<td>2.06</td>
<td>.357</td>
</tr>
<tr>
<td>Physical symptoms or fears</td>
<td>24.86</td>
<td>17.32</td>
<td>30.26</td>
<td>8.42</td>
<td>.015  ^*</td>
</tr>
</tbody>
</table>

^* p < .05.

problems and three strategies for externalizing problems. Teacher proximity was the only one reported for both problem areas. The majority of general education teachers did not report frequent use of any strategy to address internalizing problems.

At least 50% (n ≥ 4) of the resource/separate classroom special education teachers reported frequently using five instructional, positive, and reductive strategies for academic and externalizing behavior problems. In addition, they reported using response cost and time away from group for academic problems. The majority reported frequently using only verbal reinforcement for internalizing problems; however, 3 teachers (43%) reported frequently using direct instruction and rules, and 2 teachers (29%) reported frequently using proximity and token reinforcement for internalizing problems.

Table 5 shows that all the separate school teachers (n = 6) reported using the same seven strategies for academic, externalizing, and internalizing problems. Of these teachers, 5 (83%) also reported using self-management and token reinforcement for each problem.

Table 6 provides a list of the additional strategies that teachers reported using sometimes or frequently. These included academic support (e.g., modify assignments, peer helper), environmental support (e.g., conflict resolution, problem solving), affective behavior/psychoeducational support (e.g., compliment student, individual counseling), and one reductive practice, differentia reinforcement.

Table 5. Frequently Used Behavioral Strategies for Three Problem Areas

<table>
<thead>
<tr>
<th></th>
<th>Academic problems</th>
<th>Externalizing behavior problems</th>
<th>Internalizing behavior problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular/general education classes taught by general education teachers (n = 7)</td>
<td>• Explicit direct instruction</td>
<td>• Behavior contract</td>
<td>• Verbal reinforcement</td>
</tr>
<tr>
<td></td>
<td>• Room arrangement</td>
<td>• Reprimand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Rules taught and posted</td>
<td>• Teacher proximity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Teacher proximity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Verbal reinforcement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource or separate classes taught by special education (n = 7)</td>
<td>• Explicit direct instruction</td>
<td>• Explicit direct instruction</td>
<td>• Verbal reinforcement</td>
</tr>
<tr>
<td></td>
<td>• Level system</td>
<td>• Level system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Response cost</td>
<td>• Rules taught and posted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Rules taught and posted</td>
<td>• Teacher proximity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Time away from group</td>
<td>• Verbal reinforcement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Teacher proximity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Verbal reinforcement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separate school classes taught by special education teachers at a public separate school (n = 6)</td>
<td>• Behavior contract</td>
<td>• Behavior contract</td>
<td>• Behavior contract</td>
</tr>
<tr>
<td></td>
<td>• Explicit direct instruction</td>
<td>• Explicit direct instruction</td>
<td>• Behavior contract</td>
</tr>
<tr>
<td></td>
<td>• Level system</td>
<td>• Level system</td>
<td>• Behavior contract</td>
</tr>
<tr>
<td></td>
<td>• Response cost</td>
<td>• Response cost</td>
<td>• Behavior contract</td>
</tr>
<tr>
<td></td>
<td>• Rules taught and posted</td>
<td>• Rules taught and posted</td>
<td>• Behavior contract</td>
</tr>
<tr>
<td></td>
<td>• Self-management</td>
<td>• Self-management</td>
<td>• Behavior contract</td>
</tr>
<tr>
<td></td>
<td>• Teacher proximity</td>
<td>• Teacher proximity</td>
<td>• Behavior contract</td>
</tr>
<tr>
<td></td>
<td>• Token reinforcement</td>
<td>• Token reinforcement</td>
<td>• Behavior contract</td>
</tr>
<tr>
<td></td>
<td>• Verbal reinforcement</td>
<td>• Verbal reinforcement</td>
<td>• Behavior contract</td>
</tr>
</tbody>
</table>

Note. Frequently used refers to at least 50% of teachers in the group rating the strategy as one used frequently. Strategies are listed alphabetically; teachers did not rank-order the strategies.
Teacher Perceptions and Strategies

Table 6. Additional Strategies Teachers Reported Using Sometimes or Frequently

<table>
<thead>
<tr>
<th>Academic problems</th>
<th>Externalizing behavior problems</th>
<th>Internalizing behavior problems</th>
</tr>
</thead>
</table>
| Regular/general education classes taught by general education teachers ($n = 1/7$) | • Compliments to improve self-esteem  
• Have students take leadership roles | • Compliments to improve self-esteem  
• Have students take leadership roles | • Compliments to improve self-esteem |
| Resource or separate classes taught by special education teachers ($n = 5/7$) | • Learn about student’s interests  
• Maintain consistent roles routines and expectations  
• Meet one-on-one  
• Meet with student and parent  
• Modify assignments  
• Peer helper, peer tutoring  
• Social and coping skills  
• Teacher assistant duties | • Differential reinforcement  
• Learn about student’s interests  
• Maintain consistent roles routines and expectations  
• Meet one-on-one  
• Meet with student and parent  
• Modify assignments  
• Peer helper, peer tutoring  
• Social and coping skills  
• Teacher assistant duties | • Learn about student’s interests  
• Maintain consistent roles routines and expectations  
• Meet one-on-one  
• Meet with student and parent  
• Modify assignments  
• Peer helper, peer tutoring  
• Social and coping skills  
• Teacher assistant duties |
| Separate school classes taught by special education teachers at a public separate school ($n = 6/6$) | • Conflict resolution  
• Individual counseling  
• Problem solving  
• Self-esteem building  
• Social skills instruction  
• Walk and talk | • Conflict resolution  
• Individual counseling  
• Problem solving  
• Self-esteem building  
• Social skills instruction  
• Walk and talk | • Conflict resolution  
• Individual counseling  
• Problem solving  
• Self-esteem building  
• Social skills instruction  
• Walk and talk |

Note. $n =$ Strategies are listed alphabetically; they were included if at least one teacher wrote it in the Additional Strategies section; $n =$ teachers who included additional strategies/total $n$ for the group.

Discussion

The purposes of this study were (a) to compare teachers’ perceptions of problem characteristics of students with ED served in different educational environments; and (b) to examine what management and intervention strategies teachers used to support academic, externalizing, and internalizing problems of their students with ED. Regarding the first purpose, student characteristics’ data indicated that across the three settings, students with ED did not differ significantly on four of the characteristics of ED. On the fifth characteristic, students with ED in the separate school were seen as exhibiting significantly more physical symptoms or fears than were students with ED in resource and separate classrooms. On the basis of these findings, students with ED in separate schools may experience physical symptoms (e.g., headaches, stomach aches) and anxiety more than students with ED in resource and separate classrooms. Alternatively, special education teachers in separate schools may be more attuned to or more likely to report student behavior that indicates physical symptoms or anxiety than special education teachers in general education schools.

Regarding the second study purpose, results of the teacher strategies’ survey indicated considerable differences in the number and frequency of interventions and practices used across academic, externalizing, and internalizing problem areas. Verbal reinforcement and teacher proximity were the most frequently and widely used strategies reported by all teachers. As expected, general education teachers reported using more strategies to help students with academic problems than behavioral problems. Although these teachers did not perceive their students as having fewer or less severe behavioral difficulties than did teachers of students in more restrictive settings, they used a limited number of interventions and practices to address these concerns. The majority of general education teachers reported frequently using only three strategies to address externalizing behavior problems, and no strategies were reported by a majority of general education teachers to address internalizing behavior problems.

There are several limitations to this study. There was a low return rate of surveys, leading to a small sample size, which necessitated combining results from resource and separate classrooms, which may have produced an underestimate of the differences across settings. The sample also had a limitation of geography: All respondents taught in the same rural Southeastern school district. These features may have affected the reported findings and their analysis and generalizability. Perhaps with a larger and more diverse sample, significant differences between resource and separate classrooms or in more than one of the five characteristics of ED would have been apparent.

Another limitation could be the subjective nature of teacher ratings. A particular behavior problem may be viewed as very serious by one teacher, but no more than a nuisance by another. If such diverse perspectives vary by
educational setting, study results could be affected. For example, separate classroom or separate school teachers of students with ED may be better prepared to deal with challenging behaviors (Van Acker, 2007). As a result, they may tend to rate a particular emotional and behavioral challenge as less problematic than general education teachers would.

There are various reasons that teachers do or do not employ specific behavior management and intervention strategies. One possible reason is that teachers select strategies partly on the basis of the problem characteristics of their students, including how extensively those characteristics are manifested. Although logic and some research (Meadows et al., 1994; Robertson et al., 1998) suggest that students with ED in different educational environments should differ as to how extensively they show various characteristics of ED, present results do not support this idea. In the present study, any across-setting differences in behavior management and intervention strategies used must be attributable to factors other than across-setting variations in four of the characteristics of ED.

Most of the teachers in the public separate school used the same set of nine strategies to address academic and behavioral problems. This may indicate similarity in the teachers’ preparation to teach students with ED, or perhaps a standard behavior management program that was in place for the entire school. The general education teachers of students with ED reported very few additional strategies (Table 6). It may be that all the strategies they used were included in the list of 15 or perhaps they did not need additional strategies to address academic, externalizing, and internalizing problems.

The results of the teacher strategies survey may reflect the emphasis on classroom management and positive behavior interventions and supports found in training programs and textbooks for teachers of students with ED (e.g., Gettinger, Stoiber, & Koscik, 2008; Kerr & Nelson, 2010; Lane, Kalberg, & Menzies, 2009). Also, some differences in preference for intervention could be attributable to perceived ease of implementation or school district mandated in-service training. It is encouraging that this sample of teachers of students with ED, especially in separate settings, were aware of and reported using evidence-based interventions and practices with academic and behavioral problems.

Implications for future practice

With the increasing prevalence of multi-tiered academic and behavioral instruction, special educators are assuming roles as interventionists as they support students with disabilities and their general education teachers (Hoover & Patton, 2008; Simonsen et al., 2010). Special educators—and, in particular, behavioral specialists who work with students with ED—should continue to implement effective strategies for their students who need intensive support in separate settings. They should also adapt some of these individualized interventions for use in less restrictive classrooms, and provide training and support to general education teachers as they learn to implement them. Two evidence-based strategies that are well-suited to general education classrooms are self-management ( Fitzpatrick & Knowlton, 2009; Hoff & DePaul, 1998) and contingency contracts (Lohmann & Talerico, 2004; Simonsen et al., 2008). Self-management can be used to improve academic problems (e.g., self-instruction and self-evaluation during independent seatwork), externalizing problems (e.g., self-monitoring and self-reinforcement to decrease noncompliant behaviors), and internalizing problems (e.g., self-talk and self-reinforcement to increase active participation). Contingency contracts can be used for an individual, a small group of targeted students, or an entire class. They are effective for increasing academic behaviors (e.g., independent group contingency for returning homework) and social behaviors (e.g., interdependent group contingency for cooperative learning activity).

Teachers of students with ED need to become more familiar with characteristics and manifestations of internalizing behaviors, including depression, loneliness, and anxiety. Estimates of substantial problems of depression and anxiety among young people are in the 15–20% range (Huberty, 2009), and a considerable proportion of students with ED have internalizing disorders co-occurring with aggressive and disruptive disorders (Cullinan & Epstein, 2001). Although the internalizing problems affect a substantial number of school-age students, school-based measurement of and intervention for internalizing problems are not well-developed or widely practiced (Huberty, 2009). General education and special education teachers should have a cursory understanding of medications that may be used to address these internalizing behaviors, including side effects that may impact school performance (Forness, Walker, & Kavale, 2003; Ryan & Katsiyannis, 2009). In addition, teachers need to be aware of and practice effective prosocial strategies such as direct instruction for coping, social skills, and social problem-solving skills, and they should avoid using punitive interventions that may reinforce low self-esteem (Pavri, 2003; Rowe, 2010).

Implications for future research

To address limitations of the present study and further explore the research questions, additional research is warranted. More or different descriptors in the teacher strategy survey may be needed in a follow-up study. For several of the strategies, we wonder whether teachers interpreted phrases differently than we intended. For example, a majority of the special educators in resource and separate classrooms indicated that they used response cost and time away from group for academic problems. These strategies seem better suited to address externalizing behavior problems. Perhaps teachers considered time away as one-to-one or
small-group academic instruction, or they had an alternative intervention in mind.

Using teacher e-mail addresses and an electronic format for the survey may result in an increase in the return rate, because these would allow for easier initial contact and reminders and survey distribution and submission. In addition, increasing the compensation for agreeing to participate may be needed to encourage busy teachers to complete the two-part questionnaire.

To improve generality of findings, a larger sample of teachers from numerous districts should be asked to take part. Additional questions of interest may include the following: (a) in-service training, (b) schoolwide expectations and support, (c) behavior problems teachers judge as most challenging, and (d) how their knowledge of interventions influences their perception of these problems. Other questions could be asked to determine what strategies teachers perceive as most effective in meeting academic and behavioral IEP goals of students with ED. Additional means of data collection (e.g., direct observation, office referral, interview) could be used to measure student challenges and intervention use. Such research may clarify the relation, if any, between characteristics of students with ED and management and intervention strategies most frequently used across educational environments.

Evidence-based interventions that address academic and behavioral problems for students with ED are well documented (Simonsen et al., 2008); however, the research-to-practice gap continues to be problematic (Lewis Hudson, Richter, & Johnson, 2004). Further study is needed on how teacher educators, special educators, and other school professionals can best establish and communicate information about effective strategies by setting. This may include the following: (a) identifying, defining, and describing a list of research-based interventions for academic, externalizing, and internalizing behavior problems for students with ED in general education and special education classrooms; and (b) disseminating this information to teacher preparation programs and other education agencies.

**Conclusion**

Caution must be taken in interpreting and generalizing conclusions about teacher perceptions and strategy use; the present results are only a snapshot of general and special education teachers and their students in one district. However, these findings suggest that general education teachers should be provided with instruction and support as they learn to implement effective interventions and practices that actively address the needs of their students with ED. Special educators should be encouraged to share their knowledge of and skill with evidence-based strategies and adapt them for less restrictive classroom settings. Teachers will need to collaborate across educational environments for students with ED to be assured full access, instruction, and support to meet their academic and behavioral challenges.

**Author notes**

Chan Evans is an assistant professor of special education in the Department of Curriculum and Instruction at East Carolina University. Her research interests include academic and behavioral support for students with emotional/behavioral disorders across educational environments, teachers-as-researchers, and universal design for learning.

Stacy L. Weiss is an assistant professor of special education in the Department of Curriculum and Instruction at Indiana University—Bloomington. Her research interests include characteristics of students with high-incidence disabilities, curriculum-based measurement, and instructional practices in reading and written expression.

Douglas Cullinan is a professor of special education in the Department of Curriculum, Instruction and Counselor Education at North Carolina State University. His main professional interests are the nature, measurement, scope, and improvement of behavior and emotional problems of students.

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