WINNER OF CLD'S 2004 AWARD FOR OUTSTANDING RESEARCH

The following article was selected by CLD's Research Committee as the winner of the 2004 Award for Outstanding Research. Presented annually, this award is designed to promote and recognize doctoral or master's level research conducted within the last five years. Winners receive a certificate and a cash award during the Distinguished Lecture at the International Conference on Learning Disabilities sponsored by the Council for Learning Disabilities. Margarita Bianco received her award on Saturday, October 9, 2004, during the 26th International Conference on Learning Disabilities in Las Vegas, Nevada.

THE EFFECTS OF DISABILITY LABELS ON SPECIAL EDUCATION AND GENERAL EDUCATION TEACHERS' REFERRALS FOR GIFTED PROGRAMS

Margarita Bianco

Abstract. **This study investigated the effect of the disability labels learning disabilities (LD) and emotional and behavioral disorders (EBD) on public school general education and special education teachers' willingness to refer students to gifted programs. Results indicated that teachers were significantly influenced by the LD and EBD labels when making referrals to gifted programs. Both groups of teachers were much less willing to refer students with disability labels to gifted programs than identically described students with no disability label. Additionally, when compared to general education teachers, special education teachers were less likely to refer a gifted student, with or without disabilities, to a gifted program.**

MARGARITA BIANCO, Ed.D., is assistant professor, Colorado State University.

The potential for giftedness exists in every segment of the population of students with disabilities. We may logically expect to find the same occurrence of giftedness among persons with disabilities as in the general population since most disabling conditions do not preclude the possibility of giftedness; however, for a variety of reasons, students with disabilities remain underrepresented in gifted programs in public schools throughout the country (Coleman, Gallagher, & Foster, 1994; Davis & Rimm, 2004; Johnson, Karnes, & Carr, 1997).

Although estimates vary, the number of gifted students with disabilities ranges from 120,000 to 180,000 (Davis & Rimm, 1998; Friedrichs, 2001). The highest incidence of giftedness among exceptional students is

most likely to be found among students with the most frequently occurring disabilities, such as learning disabilities (Miller & Terry-Godt, 1996). For example, Friedrichs estimated that there are approximately 95,000 students in this subpopulation. Although it is generally accepted that gifted students with learning disabilities (LD) are underrepresented in gifted programs, limited empirical data are available regarding the actual prevalence of this population (Karnes, Shaunessy, & Bisland, 2004). One reason for this may be the problematic nature of defining giftedness and identifying who does and who does not meet the criteria.

Defining giftedness, with or without disabilities, is a complicated and often controversial task (Davis & Rimm, 2004). Although the literature abounds with definitions of giftedness (e.g., Clark, 1997; Piirto, 1999; Renzulli, 1978; Tannenbaum, 1997) and theories of intelligence (e.g., Gardner, 1983; Sternberg, 1997), there is no one universally accepted definition of giftedness (Davis & Rimm, 1998, 2004). As a result, giftedness means different things to different people (Tannenbaum & Baldwin, 1983) and can be influenced by one's cultural perspective (Busse, Dahme, Wagner, & Wieczerkowski, 1986). To help resolve this dilemma, many states look to the federal definition to guide their policy development (Stephens & Karnes, 2000).

The federal definition of gifted and talented has undergone numerous changes since the first definition appeared in The Education Amendments of 1969 (U.S. Congress, 1970). State departments of education use their interpretation of these definitions to develop school district policies for identification and eligibility criteria (Davis & Rimm, 2004; Stephens & Karnes, 2000). In a recent analysis of states' definitions of gifted and talented, Stephens and Karnes found no single generally accepted definition used for identification and eligibility purposes. However, according to these authors, most states use some modified form of the following 1978 federal definition:

> The term "gifted and talented children" means children and, whenever applicable, youth, who are identified at the preschool, elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high performance capability in areas such as intellectual, creative, specific academic or leadership ability or in the performing and visual arts and who by reason thereof require services or activities not ordinarily provided by the school. (Purcell, 1978; P.L. 95-561, title IX, sec. 902)

A critical issue related to defining giftedness is the purpose for which the definition is used (Renzulli, 1998). Defining giftedness becomes particularly important when the definition influences the selection of students for gifted programs and inhibits the selection of others (Davis & Rimm, 1998, 2004). Renzulli discussed this relationship, stating:

> A definition of giftedness is a formal and explicit statement that might eventually become part of official policies or guidelines. Whether or not it is the writer's intent, such statements will undoubtedly be used to direct identification and programming practices, and therefore we must recognize the consequential nature of this purpose and pivotal role. (p. 2)

Most school districts still base their identification of gifted students on high general intelligence as measured by group or individual intelligence tests and high achievement test scores (Patton, 1997; Richert, 1997). As a result, access to gifted programs continues to be limited for many students who, despite their gifted abilities, do not perform well on these measures (Patton; Richert). Consequently, many unidentified gifted students, including those with LD, are not receiving the differentiated services they need in order to nurture and further develop their unique abilities (Davis & Rimm, 1998, 2004).

Increasing attention has been given to identifying characteristics of gifted students with LD (Beckley, 1998; Nielsen, 2002). This population has been defined as "those who possess an outstanding gift or talent and are capable of high performance, but also have a learning disability that makes some aspect of academic achievement difficult" (Brody & Mills, 1997, p. 282). The students' disabilities frequently mask their abilities, causing both exceptionalities to appear less extreme, which may result in average (or below average) performance (Baum, Owen, & Dixon, 1991; Silverman, 1989, 2003). According to Brody and Mills, these students usually fit into one of three categories, leaving the dual nature of their exceptionalities unrecognized.

The first group includes students who have been identified as gifted but continue to exhibit difficulties with academic tasks. They are frequently considered underachievers and often their poor academic performance is attributed to laziness (Silverman, 2003). The second group contains those who have been identified as having an LD. For this group, the disability is what becomes recognized and addressed. Finally, the third group consists of students who have not been identified for either their disability or their exceptional abilities. This may be the largest group of all (Baum, 1990; Beckley, 1998; Brody & Mills, 1997).

Contrary to the recent interest and research in the identification and needs of gifted students with LD (Karnes, Shaunessy, & Bisland, 2004; Reis & Colbert, 2004; Winebrenner, 2003), a paucity of empirical research has addressed the characteristics, identifica-

tion, and needs of gifted students with emotional and behavioral disorders (Morrison & Omdal, 2000; Reid & McGuire, 1995). Reid and McGuire suggested that students with attention or emotional and behavior disorders (EBD) are routinely overlooked and not considered for referral to gifted programs because their negative behaviors contradict commonly held perceptions of gifted students.

Among the many barriers hindering the identification and referral of students with disabilities for gifted programs are teachers' stereotypic beliefs (Cline & Hedgeman, 2001; Johnson et al., 1997; Minner, Prater, Bloodsworth, & Walker, 1987; St. Jean, 1996) and inadequate teacher training (Davis & Rimm, 2004; Johnson et al., 1997). According to Cline and Hedgeman, stereotypic expectations work against gifted students with disabilities in two ways: (a) misconceptions about the characteristics of gifted students and (b) low expectations for students identified with disabilities.

Researchers have investigated the effects of disability labels on teachers' perceptions and expectations for students with disabilities for several decades (e.g., Algozzine & Sutherland, 1977; Dunn, 1968; Foster & Ysseldyke, 1976; Taylor, Smiley, & Ziegler, 1983). These studies, among others, document both preservice and inservice teachers' lowered expectations for students with disabilities in public school classrooms and even college classrooms (Beilke & Yssel, 1999; Minner & Prater, 1984).

Given overall lower teacher expectations for students who are labeled as having a disability than for those who are not, the special education teacher's role becomes particularly important for gifted students with disabilities since many of these students are often first recognized for their disability, not their gifts and talents (Davis & Rimm, 2004). While special education teachers may provide services for students with disabilities in a variety of settings or using a variety of approaches, their role does not preclude noting potential giftedness among their students, and subsequently making referrals for evaluation and placement in gifted programs.

With the exception of a few well-cited studies published more than a decade ago (Minner, 1989, 1990; Minner et al., 1987), research on the specific effect of disability labels on teachers' referrals to gifted programs is nonexistent. Additionally, little is known about the differential effects of disability labels on referrals to gifted programs between special education teachers and general education teachers. However, Minner's research (Minner, 1989, 1990; Minner et al., 1987) clearly demonstrated that general education teachers and teachers of the gifted are negatively influenced by certain disability labels when making referral decisions for gifted programs.

The purpose of this study was twofold. First, given what is known regarding the underrepresentation of students with LD and EBD in gifted programs, the study was designed to investigate the influence of the presence of LD and EBD labels on public school teachers' (special education and general education) referral recommendations for gifted programs. Second, the differences in referral recommendations between special and general education teachers were examined.

Three questions were investigated: (a) Do referral ratings for gifted programs differ among teachers who believe the student has a learning disability, an emotional or behavioral disorder, or no exceptional condition? (b) Do referral ratings for gifted programs differ between general and special education teachers? and (c) Is there an interaction between labeled conditions and teacher certification type?

METHOD

Participants

The 247 participants (52 special education teachers and 195 general education teachers) in this study were teachers working in one south Florida school district. All were teaching at the elementary-school level and had minimally completed a bachelor's degree in education. Subject selection and group membership were determined based on data obtained from a demographic data sheet. Teaching credentials and demographic composition with regard to socioeconomic status (SES) of the student population at assigned school sites were controlled for. Participants meeting established criteria (certification in general education or special education certification with licensure or endorsements in LD, varying exceptionalities or emotional handicaps) were selected.

The SES of the student population at individual schools was determined based on the percentage of the students receiving free and reduced-priced lunch. Because low SES may be a confounding variable, only teachers at elementary schools with 30% or fewer of the student population receiving free and reduced-priced lunch were included. Although 41 elementary schools met the specified criteria and were asked to participate, the ultimate participants were limited to teachers from 19 schools where school administrators granted permission to conduct research at their school site.

Special education teachers. Fifty-two special education teachers were selected. These participants had minimally completed a bachelor's degree in education with certification credentials in one or more of the following areas: Varying Exceptionalities (VE) = 63% (n=33); Learning Disabilities (LD) = 77% (n=40); and Emotional Handicaps (EH) = 10% (n=5). Nineteen of the teachers had a bachelor's degree, 31 had a or master's degree;

2 had specialist degrees; and no special education teacher had completed a doctorate.

The mean age range of special education teachers was between 40 and 50 years old, and they had an average of 10.67 years' teaching experience. Special education teachers holding dual certification in general education (*n*=26) were also included in the study; however, teachers with teaching credentials in gifted education were not included.

General education teachers. One hundred ninety-five general education teachers were also selected for this study. These participants had minimally completed a bachelor's degree in education with certification in elementary education. One hundred and twenty had bachelor's degrees, 67 had master's degrees, 4 had specialist degrees, and 4 held doctorates. The mean age range of general education teachers was between 40 and 50 years old, and they had an average of 11.42 years' teaching experience. General education teachers holding dual certification in any area of exceptional student education, including gifted education, were not included.

Procedure

Participants were randomly assigned to one of three treatment conditions: No exceptionality label, LD, or EBD. Each group was provided with a vignette describing a student with gifted characteristics. The vignette stem describing "A.K.," a gifted student, remained constant across all conditions. Approximately one third of each group received (a) only the vignette stem (no label); (b) the vignette stem plus appended label identifying the student as having LD (i.e., "A.K., a fourth-grade student with learning disabilities [LD)], is currently attending your school"); or (c) the vignette stem plus appended label identifying the student as having EBD (i.e., "A.K., a fourth grade student with emotional and behavior disorders [EBD], is currently attending your school").

After reading the vignettes, participants were asked to complete a survey consisting of six questions on a Likert scale. The range of scores on the survey instrument were from 1 – 4, with a score of 1 representing "strongly agree," 2 representing "agree," 3 representing "disagree," and 4 representing "strongly disagree." One of the six questions addressed the teachers' willingness to refer the student described in the vignette for possible placement in gifted programs (i.e., "I would recommend that this student be referred for placement in our school's gifted program"). The remaining five questions served as distractors. The five distractor questions were: (a) "I would recommend that this student join one of the after-school science clubs." (b) "I would recommend that this student participate in our school sports program." (c) "I would recommend that this student participate in our math tutoring program." (d) "I would recommend that this student be referred for counseling services provided at our school or by an outside agency." And (e) "I would recommend that this student participate in social skills training."

Data were collected by one of two methods: (a) surveys were distributed and collected by the researcher during faculty meetings, or (b) surveys were distributed to teachers by school secretaries or the school's exceptional student education specialist and collected by the researcher at a later date. For data collected by the researcher at school sites, after completing the survey instrument, teachers were asked to complete a survey addendum. A total of 154 teachers (62% of the participant sample) completed a survey addendum (22 special education teachers and 132 general education teachers). The survey addendum asked the participants to reflect on their response to the gifted referral question: "Briefly state why you strongly agreed, agreed, disagreed or strongly disagreed with the statement."

Participants were not provided with definitions for the terms gifted, LD or EBD. However, the Florida Statutes and State Board of Education Rules (2001) used the following definitions for these categories when thedata were collected:

Gifted (6A-6.03019): One who has superior intellectual development and is capable of high performance.

Learning disabilities (6A-6.03018): Specific learning disabilities refer to a heterogeneous group of psychological processing disorders manifested by significant difficulties in the acquisition and use of language, reading, writing, or mathematics. These disorders are intrinsic to the individual and may occur across the life span. Although specific learning disabilities may occur concomitantly with other handicapping conditions or with extrinsic influences, the disabilities are not primarily the result of those conditions or influences.

Emotional handicap (6A-6.03016): An emotional handicap is defined as a condition resulting in persistent and consistent maladaptive behavior, which exists to a marked degree, which interferes with the student's learning process, and which may include but is not limited to any of the following characteristics:

1. An inability to achieve adequate academic progress that cannot be explained by intellectual, sensory, or health factors;
2. An inability to build or maintain satisfactory interpersonal relationships with peers and teachers;
3. Inappropriate types of behaviors or feelings under normal circumstances;
4. A general pervasive mood of unhappiness or depression; or

5. A tendency to develop physical symptoms or fears associated with personal or school problems.

Data Analysis

To answer the research questions, mean scores from the survey instrument were analyzed to determine statistical significance. A 2 X 3 factorial analysis of variance (ANOVA) was used to evaluate the main effects of labeled conditions (three levels), teacher certification type (two levels), and the interaction between labeled condition and teacher type. Following a significant main effect and/or significant interaction effect, a post-hoc analysis (Scheffé test) was conducted to determine which differences between group means were significant. Effect size was determined by calculating the partial eta squared value of the ANOVA. The five distractor questions were analyzed using the same procedures.

Finally, survey addendum responses were coded and analyzed based on teacher certification type, randomly assigned label group, and the participants' responses to the gifted referral survey question. Responses were analyzed for the frequency of reference to particular factors that influenced their decision making.

RESULTS

With regard to the first research question (Do referral ratings for gifted programs differ among teachers who believe the student has a learning disability, an emotional or behavioral disorder, or no exceptional condition?), the ANOVA revealed a significant main effect for label, F (2,241) = 11.302, p<.001. Significant differences for referring students to gifted programs existed, depending upon the label appended to the student's profile. However, although a significant main effect for label was observed, the effect size was small (.086). Post-hoc analysis (Scheffé tests) revealed that significant differences existed between the no-label group and the two labeled groups (LD and EBD) only; the difference between the EBD and the LD groups was not significant.

Closer examination of the differences in mean scores by label group revealed that the overall mean score for the non-label group (1.68) was lower than for the group identified as having EBD (2.15) or the group identified as having LD (2.23). In other words, teachers were more likely to "strongly agree" or "agree" to refer non-labeled students for gifted programs than identically described students with either of the two exceptionality labels

Examination of the frequency distribution of scores per label group further demonstrates the effect of label on teachers' referrals to gifted programs (see Table 1). As illustrated, the percentage of teachers who disagreed with referring is higher with the addition of a disability label.

Analysis for the second research question (Do referral ratings for gifted programs differ between general and special education teachers?) demonstrated significant referral differences, depending upon teacher type, F (1, 241) = 5.267, p < .05, although the effect size was small (.021). Mean scores by teacher types revealed that scores for general education teachers (M=1.98) were lower than the mean scores for special education teachers (M=2.24) across all label groups. General education teachers were more likely to "strongly agree" or "agree" to refer students for gifted programs than were special education teachers.

With regard to Research Question 3 (Is there an interaction between labeled conditions and teacher certification type?), no statistically significant interaction effect for teacher type by label group was observed, F (2,241) = 1.312, p>.05. Additionally, a very low power at .282 was observed. It is not known if the lack of statistical significance is due to low power.

Table 1
Distribution of Label Group Scores for Gifted Referral Question

Scores	Total *N*	% of Group Strongly Agree	% of Group Agree	% of Group Disagree	% of Group Strongly Disagree
No Label	76	41 (*n*=31)	50 (*n*=38)	9 (*n*=7)	0 (*n*=0)
EBD	78	19 (*n*=15)	51 (*n*=40)	24 (*n*=19)	5 (*n*=4)
LD	93	22 (*n*=20)	41 (*n*=38)	31 (*n*=29)	6 (*n*=6)

Distractor Questions

Responses to the distractor questions were analyzed to uncover trends in teachers' responses. The same statistical analyses were applied to assess the main effect of label, teacher type, and interaction effect of label group and teacher type.

Analysis of responses to the referral questions related to after-school science club, math tutoring, and sports program revealed no statistically significant difference for the main effect of label, main effect of teacher type, or interaction between label and teacher type. In other words, the LD and EBD labels had no effect on these referral decisions, and these recommendations were not influenced by teacher type.

However, the analyses for the two remaining distractor questions (i.e., referral to counseling and referral for social skills training) yielded significant differences. For the counseling services question, a significant main effect was observed both for label, F (2,241) = 7.489, $p<.05$, and for teacher type, F (1,241) = 4.944, $p<.05$. No significant interaction effect was observed. Post-hoc analysis (Scheffé tests) revealed that significant differences existed between the no-label group and the EBD group and between the LD group and the EBD group.

Finally, the question related to referral for social skills training yielded statistically significant results for the main effect of teacher type, F (1,241) = 6.965, $p<.05$, and interaction effect of teacher type and label group, F (2,241) = 6.479, $p<.05$; no significant findings were noted for the main effect of label group. Again, although statistically significant, the effect sizes for teacher type (.028) and interaction effect (.051) were small.

DISCUSSION

The findings of this study demonstrate that teachers were clearly influenced by the disability labels LD and EBD when making referral decisions for gifted programs. Overall, both special education and general education teachers were much less willing to refer students with disability labels to gifted programs than students with no disability label. Although only 9% of teachers randomly assigned to the no-label group "disagreed" or "strongly disagreed" with referral, 29% of teachers randomly assigned to the EBD group "disagreed" or "strongly disagreed," and 37% in the LD group "disagreed" or "strongly disagreed" with referral. These findings are consistent with previous research (Minner, 1990, 1989) in which teachers were significantly influenced by particular disability labels and less likely to refer students with disabilities to gifted programs.

Teachers' stereotypic beliefs can hinder identification of gifted students with disabilities (Baldwin, 1999; Cline & Hedgeman, 2001; Johnson et al., 1997; Minner, 1989; St. Jean, 1996; Whitmore & Maker, 1985). According to Baldwin, the concept of a student being both gifted and having a disability seems contradictory to the general public, and to many educators. The belief that gifted students are only those students with intelligence quotients above 130 and who are high achievers in all areas creates barriers in the identification of students who, despite demonstrating gifted abilities in some areas, do not meet teachers' expectation (Baldwin; Silverman, 2003; Swesson, 1994; Whitmore & Maker). Teachers' lowered expectation for students with disabilities apparently prohibits their referral to gifted programs (Swesson, 1994).

Special education teacher training and practice primarily focuses on identifying and remediating deficit areas. Once students are identified as having a learning disability, the focus becomes remediation of basic skills (Baum, 1990; Baum, Cooper, & Neu, 2001; Baum, Emerick, Herman, & Dixon 1989; Coleman & Cross, 2001; Neu, 2003; Siegle, 2001) and implementing curriculum accommodations (Conover, 2002; Ellis, 1997). According to Conover, while attention to basic skills and making accommodations to the curriculum are important and necessary for students with LD, exclusive focus in these areas limit students' opportunities to use and demonstrate higher-order thinking skills. Similarly, Ellis noted that many of the practices commonly associated with curriculum accommodations for students with LD (reducing curriculum content or providing special content areas classes where content is simplified) "waters down" not only the curriculum, but also our expectations for these students.

The emphasis on identifying and remediating deficit areas may obscure special education teachers' capacity to recognize gifted abilities among their students. Perhaps the special education teachers in this study who disagreed with referring students with disabilities for gifted programs did so because they focused on students' disability and weaknesses rather than attending to their strengths. One special education in the LD group, for example, stated, "There is nothing in the vignette that suggests this student has gifted IQ. He also has difficulty in more competitive situations." Teachers may also tend to want to protect their students from increased academic or social pressure, as evidenced by the comment of another special education teacher in the LD group, "Placement in a gifted program would place undue academic pressure on this child. Such a placement would possibly hinder social skills as well."

Although previous research demonstrated the negative effect of disability labels on teachers' willingness to refer students with disabilities to gifted programs (Minner, 1990; Minner et al., 1987), the reasons behind their choices were not explored. In order to gain a bet-

ter understanding of why teachers agreed or disagreed with referring students to gifted programs, an addendum question asking teachers (*n*=154) to reflect on the reasons for their referral decision was incorporated. For teachers randomly assigned to either the LD or EBD group who "strongly disagreed" or "disagreed" with referring the student for a gifted program (*n*=31), comments frequently centered on one of two issues. The most frequently cited reason for disagreeing with referral given by teachers in the LD or EBD group was a mismatch between students' characteristics and expectations in a gifted program (*n*=18). For example, one general education teacher in the EBD group stated, "He does not seem ready for such a competitive environment. He needs to work out other issues first – such as anger management." Interesting, although the characteristics describing the hypothetical student were identical in all groups, no such comments were noted for teachers randomly assigned to the no-label group.

Other frequent comments centered on not having any IQ data on which to base a referral decision (*n*=13). This finding is consistent with the literature addressing a narrow concept of giftedness as defined by IQ (Renzulli, 2003). For students with disabilities, this becomes even more problematic since performance on intelligence tests can be depressed by the disability (Silverman, 2003). If teachers rely on rigid cut-off scores for making referrals to gifted programs, they are eliminating many potential gifted students with disabilities for consideration. The following is an example of a comment expressed by a special education teacher randomly assigned to the LD group. "I am basing my response on criteria for gifted in this county. Students are placed in gifted programs if they meet criteria, which is an IQ of 130. Only if this student met this criteria should he be placed. …"

An interesting incidental finding was teachers' perceptions of A. K.'s gender. The student profile was deliberately designed to be gender free; however, of the 154 teacher comments obtained from the survey addendum, 40% (*n*= 62) referred to A. K. as "he." Only two teachers (.01 %) referred to A. K. as "she;" all other comments remained gender free (i.e., "the student"). This finding appears to support the literature concerning gender bias in gifted education. That is, gifted females are traditionally underestimated, unrecognized, and frequently go unidentified as gifted (Kloosterman & Suranna, 2003). While it is possible that teachers were using "he" or "him" as a generic reference to A.K., this finding is nevertheless of interest and is consistent with the gender bias that appears to exist in gifted programs.

For the three distractor questions related to science, sports and math tutoring, there were no statistically significant differences for the main effect of label, teacher type, or interaction effect. These types of recommendations would be considered rather commonplace for typically developing students as well as students with exceptionalities. There were, however, differences for the remaining two distractor questions having to do with referral to counseling and social skills training, both of which are more typical recommendations for students with disabilities.

In general, when making recommendations for counseling services, both general and special education teachers were significantly influenced by the EBD label. That is, teachers were more willing to refer a student with EBD for counseling than an identically described student with LD or no label. Thus, the EBD label clearly influenced teachers' perceptions of students' needs. Further, although no significant interaction was observed, special education teachers were more willing to refer students for counseling across all conditions. While counseling services may be needed and recommended for students with EBD when, for example, they are experiencing family problems or engaging in illegal activities, the student profile developed for this study was based on characteristics of gifted students and made no reference to serious cause for concern. Further, special education teachers, perhaps because of their training in attending to deficit areas, were inclined to refer not only students with EBD for counseling, but also students with LD and no label.

Overall, special education teachers were more willing than general education teachers to recommend social skills training. Interesting, the greatest difference between teacher groups' mean scores occurred for the no-label group, indicating that special education teachers were more willing than general education teachers to recommend social skills training for students without disabilities. Many students with LD or EBD may indeed need social skills training, and this would be addressed in teacher preparation programs. Again, one could assume that special education teacher training had an influence on the focus on areas of weakness, even for students without identified disabilities.

Implications for Practice

These findings hold several important implications for teacher training at both the university level and state or school level professional development. Inadequate teacher training has frequently been cited as a reason for the underidentification of gifted students with disabilities (Johnson et al., 1997; Silverman, 2003) and other underrepresented groups. Gear (1978) demonstrated that with minimal training (i.e., 10 hours) in recognizing the characteristics of gifted students, teachers can become twice as effective in making accurate referrals. Both general education and special education

teachers may benefit from training that would include the characteristics and needs of gifted students, including those from underrepresented populations. As Johnson et al. (1997) noted, special education teachers need training in gifted education and general education teachers need training in both gifted education and exceptional student education. This type of coursework or inservice training could serve to inform teachers of a broadened view of giftedness and increase awareness and identification of underidentified students, including the twice exceptional population. Teachers also need to be made aware of the limiting effect their personal biases and stereotypes can have on their students, particularly when these biases serve to exclude some students from the benefits of additional services. Based on the results from this study, this seems particularly true for special education teachers.

In summary, the results of this study support and extend the findings of previous research demonstrating that teachers are negatively influenced by disability labels when making referral decisions to gifted programs. When given identical student profiles and asked to make referral decisions, teachers were significantly influenced by the disability labels LD and EBD. Further, compared to general education teachers, special education teachers were less likely to refer gifted students, with or without disabilities, to gifted programs.

State departments of education and local school districts are encouraged to develop twice exceptional guidebooks and regional trainings such as those recently developed by Montgomery County Public Schools, Maryland (2004), and the Colorado Department of Education (in press). Such materials and training can help teachers understand the apparent paradoxical nature of gifted students with LD and other disabilities. This type of training, it is hoped, will result in increased opportunities for students with LD to participate in advanced studies or gifted programs.

REFERENCES

Algozzine, B., & Sutherland, J. (1977). The "learning disabilities" label: An experimental analysis. *Contemporary Educational Psychology, 2,* 292-297.

Baldwin, A.Y. (1999). Learning disability: The mysterious mask – The USA perspective. In A. Y. Baldwin & W. Vialle (Eds.), *The many faces of giftedness* (pp. 103-134). Belmont, CA: Wadsworth Publishing.

Baum, S. (1990). *Gifted but learning disabled: A puzzling paradox*. ERIC Clearinghouse on Handicapped and Gifted Children. Reston: VA (ERIC Document Reproduction Service No ED321484). Retrieved January 20, 2001, from http://www.ed.gov/databases/ERIC_Digests/ed321484.html

Baum, S., Cooper, C. R., & Neu, T. (2001). Dual differentiation: An approach for meeting the curricular needs of gifted students with learning disabilities. *Psychology in the Schools, 38*(5), 477-490.

Baum, S., Emerick, L. J., Herman, G. N., & Dixon, J. (1989). Identification, programs and enrichment strategies for gifted learning disabled youth. *Roeper Review, 12*(1), 48-53.

Baum, S. M., Owen, S. V., & Dixon, J. (1991). *To be gifted & learning disabled*. Mansfield Center, CT: Creative Learning Press.

Beckley, D. (1998). *Gifted and learning disabled: Twice exceptional students*. Retrieved November 20, 2000, from http://www.ldonline.org/ld_indepth/gt_ld/nrcgt.html

Beilke, J. R., & Yssel, N. (1999). The chilly climate for students with disabilities in higher education. *College Student Journal, 33*(3), 364-71.

Brody, L. E., & Mills, D. J. (1997). Gifted children with learning disabilities: A review of the issues. *Journal of Learning Disabilities, 30*(3), 282-286.

Busse, T. V., Dahme, G., Wagner, H., & Wieczerkowski, W. (1986). Factors underlying highly gifted students: A cross-cultural study. *Education and Psychological Measurement, 46,* 903-915.

Clark, B. (1997). *Growing up gifted* (5th ed.). Upper Saddle River, NJ: Prentice-Hall.

Cline, S., & Hedgeman, K. (2001). Gifted children with disabilities. *Gifted Child Today, 24*(3), 16-24.

Coleman, L. J., & Cross, T. L. (2001). *Being gifted in school*. Waco, TX: Prufrock Press.

Coleman, M. R., Gallagher, J. J., & Foster, A. (1994). *Updated report on state policies related to the identification of gifted students*. Chapel Hill: University of North Carolina.

Colorado Department of Education. (in press). *Gifted students with disabilities: Twice exceptional resource book*. Denver: Author.

Conover, L. A. (2002). Encouraging preservice recognition of G/LD students. *Academic Exchange Quarterly, 6*(2), 79-84.

Davis, G. A., & Rimm, S. B. (1998). *Education of the gifted and talented* (4th ed.). Needham Heights, MA: Allyn & Bacon.

Davis, G. A., & Rimm, S.B. (2004). *Education of the gifted and talented* (5th ed.). Needham Heights, MA: Allyn & Bacon.

Dunn, L. (1968). Special education for the mildly retarded – Is much of it justifiable? *Exceptional Children, 35,* 5-22.

Ellis, E. (1997). Watering up the curriculum for adolescents with learning disabilities: Goals for the knowledge dimension. *Remedial and Special Education, 18,* 326-346.

Florida Department of Education. (2001). *Florida statutes and state board of education rules*. Tallahassee: Author.

Foster, G., & Ysseldyke, J. (1976). Expectancy and halo effects as a result of artificially induced teacher bias. *Contemporary Educational Psychology, 1,* 37-45.

Friedrichs, T. (2001). *Distinguishing characteristics of gifted students with disabilities*. Waco, TX: Prufrock Press.

Gardner, H. (1983). *Frames of mind*. New York: Basic Books.

Gear, G. H. (1978). Effects of training on teachers' accuracy in the identification of gifted children. *Gifted Child Quarterly, 22*(1), 90-7.

Johnson, L. J., Karnes, M. B., & Carr. V. W. (1997). Providing services to children with gifts and disabilities: A critical need. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (2nd ed., pp. 516-527). Needham Heights, MA: Allyn & Bacon.

Karnes, F.A., Shaunessy, A.B., & Bisland, A. (2004). Gifted students with disabilities are we finding them? *Gifted Child Today, 27*(4), 16-22.

Kloosterman, V., & Suranna, K. (2003). Gifted and talented females: The struggle for recognition. In J. A. Castellano (Ed.), *Special populations in gifted education* (pp. 97-112). Boston: Allyn & Bacon.

Miller, M., & Terry-Godt, P. R., (1996). The handicapped gifted. In R. Jenkins-Friedman, E. S. Richert, & J. F. Feldhusen (Eds.), *Special populations of gifted learner* (pp. 85-91). National Associ-

ation of Gifted Children, Committee on Special Populations. New York: Royal Fireworks Press.
Minner, S. (1989). Initial referral recommendations of teachers toward gifted students with behavioral problems. *Roeper Review, 12*(2), 78-80.
Minner, S. (1990). Teacher evaluation of case descriptions of LD gifted children. *Gifted Child Quarterly, 34*(1), 37-39.
Minner, S., & Prater, G. (1984). College teachers' expectations of LD students. *Academic Therapy, 20*(2), 225-229.
Minner, S. M., Prater, G. M., Bloodworth, H., & Walker, S. (1987). Referral and placement recommendations of teachers toward gifted handicapped children. *Roeper Review, 9*(4), 247-249.
Montgomery County Public Schools. (2004). *A guidebook for twice exceptional students*. Rockville, MD: Author. Retrieved March 3, 2005, from http://www.mcps.k12.md.us/curriculum/enriched/gtld/docs/Twice%20Exceptional.pdf
Morrison, W. F. (2001). Emotional/behavioral disabilities and gifted and talented behaviors: Paradoxical or semantic differences in characteristics? *Psychology in the Schools, 38*(5), 425-431.
Morrison, W. F., & Omdal, S. N. (2000). The twice exceptional student. *Reclaiming Children and Youth, 9*(2), 103.
Nielsen, M. E. (2002). Gifted students with learning disabilities: Recommendations for identification and programming. *Exceptionality, 10*(2), 93-112.
Neu, T. W. (2003). When the gifts are camouflaged by disability. In J. A. Castellano (Ed.), *Special populations in gifted education* (pp. 151-162). Boston: Allyn & Bacon.
Patton, J. M. (1997). Disproportionate representation in gifted programs: Best practices for meeting this challenge. In A. J. Artiles & G. Zamora-Duran (Eds.), *Reducing disproportionate representation of culturally diverse students in special and gifted education* (pp. ?-?). Reston, VA: The Council for Exceptional Children.
Piirtro, J. (1999). *Talented children and adults*. Upper Saddle River, NJ: Prentice Hall.
Purcell, C. (1978). Gifted and talented children's education act of 1978, *Congressional Record*. Washington, DC: U.S. Government Printing Office.
Reid, B. D., & McGuire, M. D. (1995). *Square pegs in round holes – These kids don't fit*. Storrs, CT: National Research Center on the Gifted and Talented. (ERIC Document Reproduction No. ED 402 701)
Reis, S.M., & Colbert, R. (2004). Counseling needs of academically talented students with learning disabilities. *Professional School Counseling, 8*(2), 156-168.
Renzulli, J. S. (1978). What makes giftedness? Reexamining a definition. *Phi Delta Kappan, 60*(3), 180-184.
Renzulli, J. S. (1998). The three-ring conception of giftedness. In S. M. Baum, S. M. Reis, & L. R. Maxfield (Eds.), *Nurturing the gifts and talents of primary grade students* (pp. 1-28). Mansfield Center, CT: Creative Learning Press.
Renzulli, J. S. (2003). Conception of giftedness and its relationship to the development of social capital. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 3-10). Needham Heights, MA: Allyn & Bacon.
Richert, E. S. (1997). Excellence with equity in identification and programming. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (2nd ed., pp. 75-88). Needham Heights, MA: Allyn & Bacon.
Siegle, D. (2001). Overcoming bias in gifted and talented referrals. *Gifted Education Communicator, 32*(2), 22-25.
Silverman, L. K. (1989). Invisible gifts, invisible handicaps. *Roeper Review, 12,* 37-41.
Silverman, L. K. (2003). Gifted children with learning disabilities. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 533-543). Needham Heights, MA: Allyn & Bacon.
St. Jean, D. (1996). *Valuing, identifying, cultivation, and rewarding talents of students from special population*. Storrs, CT: National Research Center on the Gifted and Talented. (ERIC Document Reproduction Service No. ED 427 494)
Stephens, K. R., & Karnes, F. A. (2000). State definitions for the gifted and talented revisited. *Exceptional Children 66*(2), 219-238.
Sternberg, R. J. (1997). A triarchic view of giftedness: Theory and practice. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (2nd ed., pp. 43-53). Needham Heights, MA: Allyn & Bacon.
Swesson, K. (1994). Helping the gifted/learning disabled: Understanding the special needs of the "twice exceptional." *Gifted Child Today, 17*(15), 24-26.
Tannenbaum, A.J. (1997). The meaning and making of giftedness. In N. Colangelo & G. Davis (Eds), *Handbook of gifted education* (2nd ed., pp. 27-24). Needham Heights, MA: Allyn & Bacon.
Tannenbaum, A. J., & Baldwin, L. J. (1983). Giftedness and learning disability: A paradoxical combination. In L. H. Fox, L. Brody, & D. Tobin (Eds.), *Learning-disabled/gifted children: Identification and programming* (pp. 11-36). Baltimore: University Park Press.
Taylor, R. L., Smiley, L. R., & Ziegler, E. W. (1983). The effects of labels and assigned attributes on teacher perceptions of academic and social behaviors. *Education and Training of the Mentally Retarded, 18*(1), 45-51.
U.S Congress, Public Law 91-230, April, 1970.
Whitmore, J. R., & Maker, J. C. (1985). *Intellectual giftedness in disabled persons*. Rockville, MD: Aspen Publications.
Winebrenner, S. (2003). Teaching strategies for twice-exceptional students. *Intervention in School & Clinic, 38,* 131-138.

Requests for reprints should be addressed to: Margarita Bianco, #103 School of Education, Colorado State University, Fort Collins, CO 80523; mbianco@cahs. colostate.edu