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Student, Teacher, and Parent Reactions to and Perceptions
of Testing Accommodations**

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The Consequences of Using Testing Accommodations: Student, Teacher, and Parent Reactions to and Perceptions of Testing Accommodations¹

Sylvia C. Lang, Patrick J. Kumke, Erin L. Cowell, and Corey E. Ray

With the increasing emphasis of federal and state legislation on educational accountability, large-scale achievement testing has become mandated for all children and adolescents. Although a small percentage of children and adolescents with disabilities may be eligible for alternate assessments, most children who receive special education services will have the opportunity to take large-scale achievement tests with accommodations.

Testing accommodations are changes made to the administration of standardized tests to provide students with disabilities the opportunity to demonstrate their knowledge and understanding of constructs measured by the tests without the interference of their disability. Thus, testing accommodations are designed to increase the validity of the inference made about a test score. Testing accommodations are intended to influence the skills needed to *access* a test, not the skills *targeted* for measurement by the test (Elliott, Braden, & White, 2001). Accommodations can take different forms, including changes to the setting, test presentation, response format, and timing. As mandated by the Individuals With Disabilities Education Act (IDEA, 1997), accommodations are chosen for individual students based on their unique needs; often these needs are identified through a student's Individualized Education Program (IEP). Other times, teachers make decisions about testing accommodations based on their judgments of the conditions in which their students can accurately demonstrate their knowledge. Because teachers typically provide input regarding the content of student IEPs, these two methods of determining appropriate accommodations are not mutually exclusive.

Since the passage of the IDEA amendments of 1997, the literature on testing accommodations has noticeably increased. Researchers and practitioners alike are eager to understand the effects of accommodations on students' test scores. This information is valuable not only for making testing decisions for students in special education, but also for understanding the consequences of testing accommodations for these students.

The purpose of this paper is to identify several consequences of testing accommodations for students by examining student, teacher, and parent reactions to testing accommodations on standardized tests for students with and without disabilities. It should be noted that the testing situations in this research were not high stakes; there were no rewards or sanctions for test performance. It is possible that participants would have reacted differently to testing accommodations had the situations been high stakes.

Reactions to Testing Accommodations

Several researchers have examined student and teacher reactions to the use of testing accommodations. Elliott and Marquart (2003) documented eighth-grade students' positive reactions to an accommodation of extra time on a math test. Students at risk academically,

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students with disabilities, and students without disabilities all preferred the accommodated test condition. Most students indicated that the testing accommodation allowed them to feel more comfortable, interested, and motivated—and less frustrated—while working on the test. They also reported that the test seemed easier and they performed better when extra time was provided. Elliott and Marquart suggested using Bandura's (1997) self-efficacy model to hypothesize and examine student reactions to testing accommodations. Although the present study does not include self-efficacy data, Bandura's framework is still useful for considering student perceptions of testing accommodations and the implications or potential consequences of these perceptions.

In a similar study, McKevitt and Elliott (2003) examined the effects of read-aloud and teacher-recommended accommodations on eighth-grade students. The students with disabilities preferred taking the test under the accommodated conditions, whereas the students without disabilities thought that the accommodated and non-accommodated conditions were the same. However, students without disabilities were more likely than students with disabilities to report that they thought they did better on the test with accommodations. Students with disabilities, on the other hand, reported that they believed it was easier to show what they knew under the accommodated test condition and that they felt more comfortable taking the test with accommodations.

McKevitt and Elliott (2003) also examined teacher perceptions of testing accommodations and found overall neutral attitudes. Teachers reported that testing accommodations were fair for students with disabilities but also felt that standardized reading tests, with or without accommodations, did a poor job of providing an opportunity for students with disabilities to demonstrate their knowledge. Thus, teachers characterized testing accommodations as only "somewhat helpful" in aiding students with disabilities to demonstrate their knowledge on standardized reading tests. Finally, teachers most strongly endorsed the belief that testing accommodations helped students with disabilities feel more positive about taking tests.

In a national study of 401 general education teachers, Jayanthi, Epstein, Polloway, and Bursack (1996) found that teachers, either alone or together with a special educator, were responsible for making decisions about testing accommodations for their classrooms. Although teachers were responsible for identifying and implementing testing accommodations for their students, they reported that many of the most useful testing accommodations were not feasible for implementation in the classroom. Elementary school teachers were more likely than middle and high school teachers to report that adaptations were relatively easy to implement.

Most teachers (67%) in the Jayanthi et al. (1996) study reported that providing testing accommodations only for students with disabilities was unfair. There were two primary reasons given for this reported perception: First, most teachers (78%) who thought it was unfair to provide testing accommodations only for students with disabilities indicated their belief that *all* students need some accommodations, whether they receive special education services or not. Second, some teachers indicated that if students with disabilities are included in the general education class, they must adhere to the standards of that class and not be given accommodations that are not part of the general education curriculum.

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In another study on teacher use and perceptions of testing accommodations, Gajria, Salend, and Hemrick (1994) surveyed middle and high school general education teachers. Although the teachers were familiar with many different types of testing accommodations, they were most likely to use those that could be provided to all students and were not tailored to individual needs. Approximately one third of the testing accommodations were rated significantly higher for perceived effectiveness than for use. Gajria et al. suggested that the use of testing accommodations is influenced not only by perceived effectiveness but also by the feasibility of implementation.

In a study examining teacher perceptions of the desirability and feasibility of 30 classroom testing accommodations, Schumm and Vaughn (1991) also found that testing accommodations requiring little individualization were rated as more desirable and feasible, and accommodations related to curriculum use or evaluation procedures were rated as least feasible. Finally, classroom accommodations related to increasing students' social and emotional adjustment and not requiring any environmental or curricular adaptations by the teacher were rated as the most desirable.

In a discussion of intended and unintended consequences of high-stakes assessment systems, Ysseldyke (2002) identified some ways in which teachers or school personnel were attempting to navigate the high-stakes assessment requirements. Unfortunately, many of the practices were questionable and amounted to an evasion of the assessment requirements (e.g., suspending students during testing, providing field trips for low-functioning students, "misreading" clocks, etc.). Furthermore, many teachers either quit or were reassigned in response to (a) students' decreasing or low test scores, (b) students' increasing rates of absenteeism during testing, and (c) the increasing number of students required to take non-accommodated tests (Ysseldyke, 2002).

Student, teacher, and parent perceptions of testing accommodations, and the effects of testing accommodations on these groups, are the primary components of the consequential validity of the use of testing accommodations. *Consequential validity* refers to the influence or effects that an assessment or intervention has on its consumers. It is as much a matter of social policy as it is a major component of the overall validity of an assessment system (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999). As Messick (1996) emphasized, the consequential aspect of validity should not be viewed as a separate type of validity because "the values served in the intended and unintended outcomes of test interpretation and use both derive from and contribute to the meaning of the test scores" (p. 13). This aspect of validity affirms the need to collect evidence about the intended benefits and potential unintended negative consequences of providing testing accommodations to students with disabilities. Currently, the consequential validity of the use of testing accommodations remains unclear.

Past research in this area has primarily examined teachers'—rather than students' or parents'—perceptions of the use of testing accommodations. Gaining a broader understanding of student perspectives is important for several reasons. First, students are the consumers of accommodations provided within the classroom or on tests. Hence, it is important to consider how those accommodations affect students' motivation. Students, especially middle and high school students, may be more or less motivated to perform when accommodations are provided.

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Second, it is important to consider the acceptability of different types of accommodations to students. Whereas some accommodations may be perceived as helpful and welcomed, others may be regarded negatively. In fact, Vaughn, Schumm, Niarhos, and Daugherty (1993), in a study of middle and high school students, found that students preferred teachers who provided accommodations and preferred certain types of accommodations over others. Students preferred classroom accommodations such as adjusted instruction by teachers who were sensitive to individual needs and diverse learning styles (i.e., teachers who changed presentation formats, met with students individually, and changed workgroups). They were less positive about accommodations on tests, homework, materials, or textbooks. Surprisingly, high-achieving students were more likely to prefer accommodations than low-achieving students.

Vaughn, Schumm, Niarhos, and Gordon (1993) found that elementary students also indicated a preference for teachers who provided accommodations, with the exception of accommodations provided on tests, homework, and textbooks. Specifically, students preferred instructional accommodations, rather than testing accommodations or accommodations made to materials. As in the Vaughn, Schumm, Niarhos, and Daugherty (1993) study, high-achieving students were more likely to prefer accommodations than low-achieving students. Extended interviews provided some insight into these group differences. Responses from students in the high-achieving group revealed awareness of different learning needs and the necessity of accommodations for some students. In contrast, students in the low-achieving group expressed a desire to “fit in” and have the opportunity to discuss assignments with classmates and learn what their classmates were being taught. Vaughn, Schumm, Niarhos, and Gordon (1993) suggested that accommodations may draw unwanted attention to students who are low achieving or otherwise having difficulty in the classroom. Furthermore, accommodations may transfer more of the responsibility for learning to the student, a responsibility that students may not want to take upon themselves (Vaughn, Schumm, Niarhos, & Gordon, 1993).

Vaughn and Schumm (1993) also examined the perspectives of students with learning disabilities on accommodations. As expected, students with learning disabilities demonstrated an overall preference for a teacher who provided accommodations. Whereas elementary and high school students with learning disabilities exhibited no significant preference for or against accommodations on tests, homework, or textbooks, middle school students with learning disabilities reported a preference for accommodations on homework and textbooks, but not on tests. Again, accommodations in teacher instructional style were preferred by all students. Vaughn and Schumm expected that the preferences of students with learning disabilities would be similar to those of the low-achieving rather than the high-achieving students. This expectation was not confirmed, however, by the data. Instead, high- and low-achieving students across all grade levels were more similar to each other in their preferences for accommodations than were students with learning disabilities to students in either group. Vaughn and Schumm attributed these findings to the previous accommodation experiences of students with learning disabilities. These students may have been accustomed to receiving accommodations on assignments or tests; such accommodations, although not preferred in the general education classroom, were viewed less negatively by students with disabilities than by students without learning disabilities (Vaughn & Schumm, 1993).

Results from these studies highlight several important themes. First, teachers appear to be primarily responsible for identifying, developing, and implementing accommodations for

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students with disabilities in their classrooms. Second, teachers may perceive accommodations as beneficial or desirable, but not feasible for implementation in their classroom, given “real world” constraints. These constraints often lead to questionable practices in school-wide testing of students with disabilities. Third, students’ preferences for certain accommodations differ across various ability groups and grade levels. Fourth, student perspectives on acceptable accommodations may not align with teacher perspectives of feasible accommodations. These themes point to the importance of gathering more information about the alignment of teacher and student perspectives on accommodations recommended for use during large-scale assessments.

Parental perspectives on testing accommodations also have received little attention in the research literature. Given that parents of children with disabilities are active participants on IEP teams and have a vested interest in their children’s education, their views are an important facet of the consequences of testing accommodations. The perspectives of parents whose children do not have disabilities are also important to consider. Some hypothesize that the number of students identified as having disabilities will increase because parents will want their children to have the “advantage” of accommodations. Therefore, to have a more comprehensive view of accommodations and their consequential validity, it is important to examine parental perspectives.

Questions and Predictions

To examine the consequences of using testing accommodations, we addressed the following research questions:

- What are students’, parents’, and teachers’ reactions to the use of testing accommodations?
- What is the relationship between students’ perceptions of testing accommodations and their disability status?
- What is the effect of grade level on students’ perceptions of testing accommodations?

We collected and examined data from written questionnaires to obtain descriptive information about student, parent, and teacher perceptions of the role and functions of testing accommodations and the related educational and social consequences for students with and without disabilities. These questionnaires were given to participants after they participated in a study of the effects of accommodated and non-accommodated testing conditions on their test scores. We expected a wide array of responses, both positive and negative, from the participants. Based on a review of prior research, we made the following predictions:

- *Prediction #1.* We predicted that a synthesis of the responses would reveal that students with disabilities perceived the accommodated test condition as easier, more comfortable, and a better measure of their skills than the non-accommodated test condition. We also predicted that parents and teachers would perceive the use of testing accommodations as reasonable and valid.
- *Prediction #2.* We predicted that students with disabilities would favor the accommodated test condition more than students without disabilities. This prediction was based on previous

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research (Elliott & Marquart, 2003; McKevitt & Elliott, 2003) that examined student preferences for accommodated or non-accommodated test conditions.

- *Prediction #3.* We predicted that fourth-grade students with disabilities would favor the accommodated test condition more than eighth-grade students with disabilities. This prediction was based on research findings that students prefer covert testing accommodations, or accommodations made for the entire classroom rather than individual students as would be the case with testing accommodations, and that this preference grows stronger with age (Vaughn & Schumm, 1993).

Method

Participants

Students. This study included 152 fourth-grade participants and 142 eighth-grade participants from 15 schools in Wisconsin. The fourth-grade sample consisted of 69 females and 83 males. The majority of the fourth-grade participants identified themselves as European American ($n = 147$). There were 65 students with disabilities in the fourth-grade sample. The eighth-grade sample also included more males ($n = 99$) than females ($n = 43$), with most students of European American background ($n = 137$). Out of 142 eighth graders, 62 had disabilities.

Parents. Twenty-one parents of fourth graders and 22 parents of eighth graders participated in this study. These parents represented students from six schools in Wisconsin. The parents' gender was not identified. The majority of the parents had a daughter participating in the study ($n = 26$). Only two parents identified themselves as Hispanic; the remaining parents indicated that they were European American ($n = 41$). Most of the parents who participated in this study had a child with a disability ($n = 31$).

Teachers. Thirty-five educators from 14 schools participated in this study. Most participants were regular or special education teachers ($n = 8$ and 16 , respectively), although three school psychologists, one director of special education, and one English as a Second Language (ESL) teacher also participated. Six participants did not indicate their title or position. It should be noted that two educators completed the questionnaire twice, although during different years of the study. Ratings from both questionnaires were included in the sample because educators' perceptions of testing accommodations can change and the educators provided perceptions of testing accommodations for two different cohorts of students during the study.

Materials

TerraNova. The tests used in this study were research editions of the TerraNova Multiple Assessment Battery (CTB/McGraw-Hill, 1997), which included two math and two reading subtests for students in both the fourth and eighth grades (i.e., Levels 14 and 18). The math tests were designed to measure broad mathematical ability aligned with the traditional curriculum and included sections on computation, estimation, critical thinking, and problem solving. The reading tests were designed to measure reading comprehension, vocabulary, reference skills, and language expression. Passages were provided to students with corresponding questions that

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tested students' levels of understanding, interpretation, and evaluation of concepts in the passages. The test format included multiple-choice, short-answer, and essay responses.

The TerraNova tests are well aligned with Wisconsin's academic standards in reading and math; TerraNova subject-matter tests have been endorsed by the Wisconsin Department of Public Instruction and used within the state for the past 6 years. The TerraNova math and reading tests have excellent psychometric properties with alpha reliabilities of .87 and .86 on the fourth- and eighth-grade math tests, respectively, and .92 for the fourth- and eighth-grade reading tests. Similar versions of TerraNova are used in over 20 state assessment systems across the country.

Assessment Accommodations Checklist. The Assessment Accommodations Checklist (AAC; Elliott, Kratochwill, & Schulte, 1999) is a tool for educators to identify and document the use and effects of testing accommodations for students with disabilities. The checklist consists of 67 accommodations within the following eight accommodation domains: motivation, scheduling, setting, assistance prior to the administration of test, assessment directions, assistance during assessment, equipment or assistive technology, and changes in format. Use of the AAC is individualized for each student with disabilities; appropriate accommodations are determined by educators and given to the assessment administrator. Upon completion of the test, the administrator documents the testing accommodations that were actually used during testing.

Questionnaires. We developed interview questionnaires for students, parents, and teachers. All participants in the study were given the opportunity to fill out a questionnaire after completing the tests. The student questionnaire consisted of 13 items, 3 of which were open-ended. The remaining items asked the students to indicate their preference for testing accommodations and to rate the fairness of testing accommodations on a 5-point scale. Students were also provided with the opportunity to provide comments or ask questions after completing the 13 items. The questionnaire items asked students to identify the effects that the testing accommodations had on their comfort level, interest, motivation, frustration level, and ability to demonstrate their knowledge and skills.

The parent and teacher questionnaires consisted of 16 and 17 items, respectively. Both parents and teachers were asked to rate their feelings about testing and testing accommodations for students with disabilities using a 5-point scale. Whereas the teacher questionnaire asked teachers about their feelings in relation to students with disabilities, the parent questionnaire focused on the rater's child. At the end of both questionnaires, parents and teachers had the opportunity to express their opinions about the acceptability, fairness, and validity of testing accommodations through open-ended questions.

Procedure

We recruited student, parent, and teacher participants from school districts throughout Wisconsin. Teachers who were interested in participating were asked to recruit student participants by providing parents with consent letters. Students with disabilities were initially recruited and then a matching number of students without disabilities were sought for participation. After parental consent had been obtained, the special education teachers were provided with the AAC and asked to identify appropriate testing accommodations for the students with disabilities. Teachers could identify appropriate accommodations based on

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information in the student's IEP as well as their own judgment of what would be beneficial for the student in a testing situation.

Teachers were asked to complete the AAC for each student with a disability, indicating what disability the student had, what testing accommodations should be used during the test administration, and whether the accommodations were based on the student's IEP or the teacher's judgment. Teachers provided the research team with a list of student participants, and students with disabilities were randomly matched to students without disabilities. Once students were paired, they were assigned to take two forms of the TerraNova research edition math and reading tests in a randomly assigned order. Each pair of students took one reading test and one math test with accommodations, and one reading test and one math test without accommodations. The accommodations provided to the pair of students were determined by the AAC that had been completed for the student with the disability. Thus, each pair received the same testing accommodations for one form of each test. A member of the research team administered the tests to the students, generally over 3–4 days. After completing the tests, the students were asked to fill out the questionnaire if their parents had consented to this component of the study. The questionnaire items were read to each student, and students were informed that the information would be confidential.

Participating teachers and parents of student participants were also asked to complete the questionnaires. Teachers and parents were mailed the questionnaires with explicit instructions and were asked to return the questionnaire via regular mail.

Research Design and Data Analyses

We used descriptive analyses to synthesize and interpret the questionnaire data to understand the consequences of the use of testing accommodations as perceived by students, parents, and teachers. To test each prediction, we used chi-square and binomial tests of proportions to examine associations or differences between disability status and grade level for specific items on the student, parent, and teacher questionnaires. For the specific items on the student questionnaire, we first compared the students with disabilities who preferred accommodations to the combined group of students with disabilities who (a) preferred the non-accommodated tests or (b) viewed the conditions as the same. We then compared students with disabilities who preferred the accommodated condition solely to students with disabilities who preferred the non-accommodated condition.

Results

Prediction 1: Partially Supported

Students' comfort under testing conditions. An analysis of the data revealed mixed results. With regard to the condition under which students felt most comfortable taking the tests, 46% of students with disabilities and 43.4% of students without disabilities felt more comfortable when the teacher provided accommodations; 9.5% of students with disabilities and 17.5% of students without disabilities felt more comfortable when the teacher did not provide accommodations; and 44.4% of students with disabilities and 39.2% of students without disabilities felt the conditions were about the same (see Table 1). In comparing the proportion of

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students with disabilities who felt more comfortable in the accommodated condition (.46) to those who felt more comfortable in the non-accommodated condition or felt the conditions were about the same (.54), no statistically significant difference was found, $p = .423$ (see Table 2). However, when comparing the proportion of students with disabilities who felt more comfortable in the accommodated condition (.83) solely to the proportion of students with disabilities who felt more comfortable in the non-accommodated condition (.17), a statistically significant difference was found, $p = .0001$ (see Table 3).

Students' perceptions of ease. Sixty-two percent of students with disabilities and 50% of students without disabilities felt that the tests seemed easier when the teacher provided accommodations; 9.4% of students with disabilities and 16.9% of students without disabilities felt that the tests seemed easier when the teacher did not provide accommodations; and 28.3% of students with disabilities and 33.1% of students without disabilities felt the conditions were about the same (see Table 1). The proportion of students with disabilities who reported that the accommodated tests were easier (.62) was significantly greater than the proportion of students with disabilities who found the non-accommodated tests easier or found both conditions equivalent (.38), $p = .008$ (see Table 2). Furthermore, in an examination of solely the proportion of students with disabilities who reported that the accommodated tests were easier (.87) to the proportion of students with disabilities who found the non-accommodated condition easier (.13), a significantly greater number of students with disabilities reported the accommodated tests were easier, $p = .0001$ (see Table 3). In sum, the proportion of students with disabilities who reported that the accommodated tests “seemed easier” was significantly greater than both (a) the proportion of students with disabilities who either chose the non-accommodated test or reported that the test conditions were about the same and (b) the proportion of students with disabilities who chose the non-accommodated test condition.

Students' overall preference for testing condition. A slightly higher percentage of students with disabilities (46%) than students without disabilities (39%) indicated an overall preference for testing with accommodations. Additionally, 17% of students with disabilities and 21% of students without disabilities indicated a preference for testing without accommodations, and 36% of students with disabilities and 40% of students without disabilities indicated that the testing conditions were about the same (see Table 1). There was not a significant difference between the proportion of students with disabilities who indicated a preference for testing accommodations (.46) and the proportion who either reported a preference for the non-accommodated condition or indicated that both conditions were about the same (.54), $p = .478$ (see Table 2). However, the proportion of students with disabilities who indicated a preference for testing accommodations (.73) was significantly greater than the proportion of students with disabilities who reported a preference for the non-accommodated condition (.27), $p = .0001$ (see Table 3). Thus, students with disabilities were more likely to report a preference for the accommodated test condition than for the non-accommodated test condition.

Students' preference for testing conditions on subject tests. On the math test, 36.2% of students with disabilities and 25.5% of students without disabilities reported that they were better able to show what they knew when the teacher provided accommodations, whereas 27.6% of students with disabilities and 40% of students without disabilities thought they were better able to demonstrate their knowledge when the teacher did not provide accommodations. Over one third of students with and without disabilities (36.2% and 34.5%, respectively) reported that the

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conditions were about the same (see Table 1). Contrary to our predictions, the proportion of students with disabilities who preferred the accommodated condition (.36) was significantly smaller than the proportion of those who either preferred the non-accommodated condition or felt that the conditions were about the same (.64), $p = .003$ (see Table 2). However, when comparing the proportion of students with disabilities who preferred the accommodated math test (.57) solely to the proportion who preferred the non-accommodated math test (.43), the difference was not statistically significant, $p = .267$ (see Table 3).

On the reading test, 42.5% of students with disabilities and 30.7% of students without disabilities indicated that they were better able to show what they knew when the teacher provided accommodations, whereas 21.3% of students with disabilities and 35.5% of students without disabilities reported that they were better able to demonstrate their knowledge when the teacher did not provide accommodations. With the reading test as with the math test, over one third of students with and without disabilities (36.2% and 33.7%, respectively) felt the conditions for the reading tests were about the same (see Table 1). The proportion of students with disabilities who reported that they were better able to show their knowledge on the reading test with accommodations (.43) was not significantly different from the proportion of students with disabilities who felt either that the non-accommodated condition was better or that both conditions were about the same (.57), $p = .110$ (see Table 2). However, when comparing the proportion of students with disabilities who preferred the accommodated reading test (.67) solely to the proportion who preferred the non-accommodated reading test (.33), the difference was statistically significant, $p = .004$ (see Table 3).

Parents' and teachers' perceptions of fairness and validity. In general, parents reported that it was "fair" for students with disabilities to receive accommodations on state and district-wide tests. On a 5-point scale, with 1 being "not at all fair" and 5 being "very fair," the mean rating was 4.22, with the 95% confidence interval for the mean ranging from 3.97 to 4.48. The lowest rating was a 2 and the highest a 5. The teacher mean rating was slightly higher at 4.64, with the 95% confidence interval ranging from 4.38 to 4.90, indicating that teachers also thought it was "fair" for students with disabilities to receive accommodations. When asked how comparable the score of a student with disabilities who received an accommodation on a test is to the score of a student without disabilities who did not receive any accommodations on the same test, parents reported that the scores were "somewhat comparable." The mean rating was a 3.3, with the 95% confidence interval for the mean ranging from 2.99 to 3.61. The lowest rating was a 1 ("not at all comparable") and the highest a 5 ("very comparable"). Again, teachers' ratings were comparable to parents', with a mean of 3.4 and a 95% confidence interval ranging from 2.97 to 3.83.

Prediction 2: Partially Supported

There was no significant association between students' disability status and their reported comfort with the accommodated tests, $\chi^2 = .205$, $p = .651$. However, there was a significant association between disability status and the perception that the accommodated versions were easier, $\chi^2 = 4.336$, $p = .037$. Likewise, disability status was significantly associated with a preference for the accommodated conditions on both the reading and math tests, $\chi^2 = 3.951$, $p = .047$ and $\chi^2 = 4.355$, $p = .037$, respectively. In other words, students with disabilities were more

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likely than students without disabilities to report that they felt the accommodated condition was easier and that they preferred this condition in both the math and reading tests.

Prediction 3: Not Supported

For students with disabilities, there was no significant association between their grade level and their reported preference for either the accommodated or the non-accommodated math and reading tests. That is, there was no significant difference between the proportion of fourth-grade students with disabilities and the proportion of eighth-grade students with disabilities who reported that the accommodated versions were easier or more comfortable or enabled them to better show what they knew.

Discussion

Purpose of the Study

The purpose of this study was to examine student, parent, and teacher perspectives on testing accommodations on standardized tests. We examined student perceptions of testing accommodations in relation to (a) comfort level while taking the test, (b) ability to demonstrate knowledge under both accommodated and non-accommodated conditions, (c) ease of the test, and (d) preference for the accommodated or non-accommodated test condition. We examined parent and teacher perceptions of (a) the fairness of granting accommodations solely to students with disabilities on state- and district-wide tests and (b) the comparability of scores achieved by students with disabilities who received accommodations and students without disabilities who received no accommodations. Finally, we examined differences in student perceptions based on groupings of disability status and grade level.

It is important to note that our research did not involve a high-stakes testing situation, although the IEP-based accommodations used in our study are similar to those used in state-wide assessment in most states. A clear sense of educational or personal consequences for poor test performance is, therefore, missing from this study. We hypothesize that this high-stakes variable would influence students', teachers', and parents' reactions to accommodations. Future investigations are needed to better understand the influence of high stakes on student and consumer reactions to tests and testing accommodations.

Student Perceptions of Accommodations

The findings from this study indicate that a significant majority of students with and without disabilities felt more comfortable taking the tests under the accommodated condition. However, there was no significant difference between the proportion of students with disabilities who felt more comfortable taking the tests with accommodations and the proportion of students with disabilities who either felt more comfortable taking the tests without accommodations or felt the testing conditions were the same. In fact, the percentage of students with disabilities who felt more comfortable taking the tests under the accommodated condition (46%) was almost the same as the percentage of students with disabilities who felt that the accommodated and non-accommodated conditions were about the same (44.4%). There was a significant difference,

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however, between the proportion of students with disabilities who felt more comfortable with accommodations and the proportion of students with disabilities who felt more comfortable without accommodations.

A slight majority of students with and without disabilities perceived the tests to be easier when accommodations were provided, though more than a quarter of the students with and without disabilities claimed that the test conditions seemed the same. The proportion of students with disabilities who felt that the tests were easier with accommodations was significantly different from the proportion of students with disabilities who either felt the tests were easier without accommodations or felt the conditions were the same. Students with disabilities indicated an overall preference for the accommodated testing condition, with a significant difference between the proportion of students with disabilities who indicated a preference for the accommodated condition and the proportion of students with disabilities who indicated a preference for the non-accommodated condition. When grouping students with disabilities who indicated that the testing conditions seemed about the same with those who indicated a preference for the non-accommodated condition, the difference between this combined group and students with disabilities who preferred the accommodated condition was not significant.

On the math tests, there was a significant difference between the proportion of students with disabilities who felt they were better able to demonstrate their knowledge on the tests under the accommodated condition and the proportion of students with disabilities who either felt they were better able to demonstrate their knowledge under the non-accommodated condition or felt the conditions were the same. However, these findings were in the opposite direction from that expected. Finally, on the reading tests, students with disabilities were more likely to report that they were better able to show their knowledge under the accommodated condition than under the non-accommodated condition.

Students' open-ended responses to the questionnaire provided some insights into the findings reported above. Although many students reported an appreciation for the accommodations, some students indicated that the accommodations provided were unnecessary. This perception may account for the relatively large percentage of students who endorsed the test conditions as being about the same. Although accommodations were readily available, if the students did not take advantage of those accommodations, the two test conditions could, in fact, be almost identical. For example, if the accommodation of extended time was the only accommodation provided in the accommodated test condition, and the student did not need extra time to complete the test, the two test conditions would be almost identical. On the other hand, regardless of whether the accommodation of extra time was used by a student, the availability of this accommodation may have allowed the student to feel more at ease during the testing, knowing that there was no need to rush through the test to finish. Actually, in their responses to the open-ended question, students frequently did express the sentiment that the accommodation did not seem necessary because it was not used, but it still allowed the student to relax and feel less pressure.

Some students disliked the accommodations because they felt they were unnecessary and slowed down the testing process. Yet other students reported a preference for one of the testing conditions based on how the accommodations affected their self-perception or self-efficacy. Specifically, the accommodated test condition made some students feel "less dumb," "more

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confident,” or “less stupid asking a question,” while making other students feel “more dumb” or “kind of stupid.” Such findings about the effect accommodations can have on students’ self-efficacy are important to consider when making decisions about providing testing accommodations. Based on the responses of students in this study, it appears that testing accommodations can be helpful or harmful for a student’s self-efficacy.

Parent and Teacher Perceptions of Accommodations

Both parents and teachers perceived testing accommodations to be fair for students with disabilities, although teacher ratings of fairness were slightly higher. The majority of parent participants were parents of students with disabilities, whereas the teacher participants included both general and special educators. With the inclusion of students with disabilities in regular classrooms it can be expected that general education teachers have had experiences education or working with students with disabilities. Thus, we predicted that parents and teachers would view testing accommodations as fair given their experiences with children who have diverse learning needs.

Parents and teachers agreed that the score of a student with disabilities who received accommodations would be *somewhat comparable* to the score of a student without a disability who received no accommodations on the same test. On the assumption that students with disabilities require testing accommodations to access the opportunity to demonstrate their knowledge, we expected that the scores of students with disabilities who received accommodations would be comparable to the scores of students without disabilities who did not receive accommodations. This study demonstrates that parents and teachers viewed testing accommodations as *somewhat* valid, as reflected by their ratings of test scores being *somewhat* comparable.

Unfortunately, our parent and teacher questionnaires did not query about the desirability or feasibility of identifying, designing, or implementing testing accommodations for students with disabilities, an investigation that would have been useful given previous research (Schumm & Vaughn, 1991).

Group Differences

Our examination of group differences reveals mixed findings. We divided student participants into groups based on disability status and grade level and examined differences between these groups in their preferences for the accommodated or non-accommodated condition. As predicted, the data indicate that a significantly larger proportion of students with disabilities than students without disabilities felt the accommodated condition was easier and preferred that condition on the math and reading tests. Contrary to our prediction that students in fourth grade would prefer testing accommodations more than students in eighth grade, we found no significant association between grade level and preference for either test condition. These findings are interesting given that some researchers have found that students with disabilities reported less preference for testing accommodations at higher than at lower grade levels (Elliott & Marquart, 2003; McKeivitt & Elliott, 2003).

Implications of Findings

This study extends the information that is available regarding student, parent, and teacher perceptions of accommodations for students with disabilities on large-scale achievement tests. Previous research findings concerning students' preferences for accommodations on tests are mixed. Consistent with studies by Elliott and colleagues, the present study found that both fourth- and eighth-grade students with and without disabilities reported an overall preference for testing under the accommodated condition. Many of the associations between different groups of students and preference for either testing condition, however, were not statistically significant. Students' open-ended responses indicated a differential effect of testing accommodations on students' self-perception and self-efficacy. While some students reported feeling more confident and relaxed under the accommodated test condition, other students reported feeling "dumb" or "stupid." When considering the potential consequences of testing accommodations for students with disabilities, the self-perceptions of individual students should be taken into consideration.

Bandura's (1997) social learning theoretical framework may contribute to our understanding of testing accommodations and their consequences for students. Essentially, students given testing accommodations on a standardized assessment may interpret the provision of those accommodations in at least three ways. First, they may perceive the accommodations as enablers that allow them to fully demonstrate their knowledge. Second, they may perceive the accommodations as unnecessary. Third, they may perceive the accommodations as evidence of their own difficulties with assessments or learning in general. Student perceptions of testing accommodations are likely to be influenced by their self-efficacy. If students' self-efficacy is high, they will likely view the accommodations either as enablers or as unnecessary because they already view the goal (i.e., doing well on the test) as reachable. However, students with low self-efficacy may view the accommodations as indicative of their inability to reach the goal. In fact, the use of testing accommodations might even decrease some students' self-efficacy. For example, if such students do well on a test, they might attribute their success to the testing accommodations, rather than their own ability.

Although this study did not directly examine students' self-efficacy in relation to testing accommodations, the open-ended responses from the student questionnaire did provide an indication that testing accommodations can have either a positive or a negative effect on a student's reported sense of self-efficacy. It is likely that this effect, in turn, could significantly influence a student's behavior during the testing. It would be unfortunate if testing accommodations that teachers perceive as beneficial actually had the opposite effect on some students, resulting in a decrease in their motivation to work or in an attribution of their success to the testing accommodations rather than themselves. Thus, it is important to have a clear understanding of student and teacher perceptions of testing accommodations to ensure that when testing accommodations are actually provided to students, the students' and teachers' perceptions of the accommodations are aligned.

Understanding the consequences of testing accommodations for students, whether positive or negative, is essential for establishing the consequential validity of such accommodations on large-scale achievement tests. The intended consequence of testing accommodations for students is to provide them with an opportunity to demonstrate their knowledge on tests, without the interference of their disability. Hence, students' positive

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perception of testing accommodations provides support for the consequential validity of testing accommodations on large-scale achievement tests. Furthermore, teachers' and parents' positive perceptions of testing accommodations for students with disabilities can also offer evidence that the consequences of the accommodations are indeed positive. Thus, this study provides further support for the continued use of testing accommodations through evidence affirming the consequential validity of their use.

Limitations and Future Research

There are several limitations to this study. First, although the sample included students from different grade levels, it was not ethnically or geographically diverse enough to warrant extensive generalization beyond the population from which the sample was drawn. A second limitation involves the way in which the students were grouped. Although we had information about students with disabilities (i.e., type of disability), our information about the students without disabilities was limited. Thus, the variability of knowledge and skills within the group of students without disabilities could have been large. For example, some students may have been gifted and talented, whereas other students may have been at risk due to a long history of academic underachievement or failure. Third, there was a large amount of variability within the group of students with disabilities. Students with many different types of disabilities participated. Given that testing accommodations were identified for individual students based on their unique needs rather than their disability type, it may not be very useful to examine differences between disability type and perceptions of testing accommodations. Fourth, the testing accommodations provided in this study were largely based on teachers' judgments of what would be beneficial for their students. This approach may cast doubt on the validity of the selected testing accommodations for anyone who questions the extent of the teachers' knowledge about appropriate testing accommodations (Schumm & Vaughn, 1991). In fact, teachers themselves have expressed concerns about the adequacy of their training and their ability to instruct students with diverse learning needs and select appropriate accommodations (Schumm & Vaughn, 1991). Fifth, it would have been useful to have used a student questionnaire that measured students' self-efficacy in relation to testing accommodations. Finally, the testing situation employed in this research was not high stakes.

Future research could address the issues surrounding the use of accommodations with high-stakes testing and the effect of testing accommodations on students' self-efficacy. Researchers may also want to examine students' perceptions of specific types of testing accommodations or accommodation packages. It may be that students with disabilities are more accepting and appreciative of specific types of testing accommodations given their previous experiences with them. If a relationship was found between students' positive or negative ratings and certain types or packages of accommodations, it would be interesting to note whether that relationship was mediated by disability type.

Future research should also address the validity of teachers' judgments of testing accommodations. This could be achieved by examining the reactions of teachers who have and have not received formal training in the selection and administration of testing accommodations for students with disabilities. It would be interesting to determine whether teachers' own training in testing accommodations influences their perceptions of accommodations. Additionally, regular and special educators' perceptions could be examined to identify any associations

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between educator type and support for testing accommodations for students with disabilities. Finally, parents' perceptions of testing accommodations deserve further research since parents are key consumers of testing accommodations through their children and ultimately can have a large effect on the provision of accommodations for their children. It would be helpful to examine whether parents' perceptions of testing accommodations differ according to whether their children have disabilities.

Conclusion

This study found that students, parents, and teachers have varied perceptions of the provision of testing accommodations for students with disabilities. A majority of students indicated a slight preference for testing accommodations, and most parents and teachers reported feeling that testing accommodations were fair and valid for students with disabilities. An examination of open-ended responses on the student questionnaire revealed different ways in which testing accommodations can influence a student's self-efficacy. Whereas some students perceived the testing accommodations as contributing to their confidence during testing, other students reacted negatively to the accommodations, indicating that they made them feel "dumb" or "stupid." These findings warrant further research on the effects that testing accommodations can have on students' self-efficacy, particularly given the fact that many students with disabilities are likely to be exposed to testing accommodations during mandated tests. Taken together, this research on student, teacher, and parent reactions to the use of testing accommodations provides evidence for the consequential validity of the resulting scores for all students.

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Table 1
Percentage of Students With Disabilities (SWD) and Students Without Disabilities (SWOD) and Preferred Test Condition

Questionnaire item	Student responses		
	Preferred accommodations	Preferred no accommodations	Felt conditions were same
Comfort level			
SWD	46%	9.5%	44.4%
SWOD	43.4%	17.5%	39.2%
Better able to show knowledge in math			
SWD	36.2%	27.6%	36.2%
SWOD	25.5%	40%	34.5%
Better able to show knowledge in reading			
SWD	42.5%	21.3%	36.2%
SWOD	30.7%	35.5%	33.7%
Seemed easier			
SWD	62.2%	9.4%	28.3%
SWOD	50%	16.9%	33.1%
Overall preference			
SWD	46%	17%	36%
SWOD	39%	21%	40%

Note. The total number of students with disabilities (SWD) was 127. The total number of students without disabilities (SWOD) was 166.

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Table 2
Proportions of Students With Disabilities Who Preferred Accommodations Compared to Those Who Either Did Not Prefer Accommodations or Felt That the Two Conditions Were the Same

Questionnaire item	Student responses		
	Preferred accommodations	Preferred no accommodations or felt conditions were same	<i>p</i>
Comfort level	.46	.54	.423
Better able to show knowledge in math	.36	.64	.003
Better able to show knowledge in reading	.43	.57	.110
Seemed easier	.62	.38	.008
Overall preference	.46	.54	.478

Note. The total number of students with disabilities (SWD) was 127.

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Table 3
Proportions of Students With Disabilities Who Preferred Accommodations Compared to Those Who Did Not Prefer Accommodations

Questionnaire item	Student responses		
	Preferred accommodations	Preferred no accommodations	<i>p</i>
Comfort level <i>n</i> = 70	.83	.17	.0001
Better able to show knowledge in math <i>n</i> = 81	.57	.43	.267
Better able to show knowledge in reading <i>n</i> = 81	.67	.33	.004
Seemed easier <i>n</i> = 91	.87	.13	.0001
Overall preference <i>n</i> = 81	.73	.27	.0001