

The Pennsylvania State University

The Graduate School

College of Education

**PSYCHOEDUCATIONAL REPORTS: IMPACT OF JARGON AND REPORT
LENGTH ON TEACHER AND PARENT RECALL AND PREFERENCE**

A Thesis in

School Psychology

by

Leah B. Bucknavage

© 2007 Leah B. Bucknavage

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

August 2007

The thesis of Leah B. Bucknavage was reviewed and approved* by the following:

Barbara A. Schaefer
Associate Professor of Education
Thesis Adviser
Chair of Committee
Professor-in-Charge of Graduate Programs in School Psychology

James C. DiPerna
Assistant Professor of Education

Ronald A. Madle
Adjunct Associate Professor of Education

Eric Loken
Assistant Professor of Human Development

*Signatures are on file in the Graduate School.

ABSTRACT

The psychoeducational report has many purposes including informing educational diagnosis and classification, addressing intervention both at school and home, and serving as a permanent product in the child's educational record. As it is an important vehicle for transmitting information from the school psychologist to the multidisciplinary team that makes special education decisions regarding individual students, the reports need to be understandable and serve in a manner that will enhance communication between home and school. This study examined the effects of language used, length, and reader background (i.e., whether the reader is a parent or teacher) on readers' understanding. Specifically, the effects of (a) reduced jargon in psychoeducational reports, (b) summary-length versus full-length versions, and (c) readers' level of teacher training were examined via the readers' preference for, and recall of, psychoeducational reports. Participants in the study ($N = 131$) included 82 teachers and 49 parents from a medium size public school district in the Northeast. After reading a summary-length or full-length psychoeducational report containing either a high or low level of jargon, participants completed questionnaires assessing their recall of information contained in the report and preference regarding the report. Participants subsequently read a second report and directly compared their preference for the summary-length versus the full-length version. Results indicated that readers' role as a parent or teacher and the length of the report did not affect their recall or preference. However, the level of jargon contained in the report had an effect on both recall and preference measures, with the low-jargon report leading to higher recall scores and higher preference ratings. Additionally, this effect was influenced by whether the reader was a parent or a teacher. The implications and limitations of the study are discussed, and recommendations for future research regarding jargon use in psychoeducational reports are identified.

TABLE OF CONTENTS

List of Tables	vii
List of Figures.....	ix
Psychoeducational Reports: Impact of Jargon and Report Length on Teacher and Parent	
Recall and Preference	1
Influence of Psychoeducational Reports	4
Preference for Psychoeducational Reports	8
Report Preference and Usefulness in General	8
Effect of Report Characteristics	10
Preference for content.....	11
Preference for format.....	13
Effect of Reader Characteristics.....	17
Comprehension of Psychoeducational Reports	20
Readability	21
Psychological Professionals' Comprehension	22
Parent Comprehension.....	24
Teacher and School Personnel Comprehension.....	26
The Use of Jargon	29
Jargon in Consultation and Intervention.....	29
Jargon Use in Psychological Reports	33
Jargon in Isolation	33
Effect of Jargon in Psychoeducational Reports.....	36

The Present Study	41
Research Questions	42
Research Hypotheses.....	43
Method	44
Participants	44
Measures	45
Psychoeducational Report	46
Procedure	49
Data Analyses	50
Results.....	52
Recall.....	54
Preference	57
Background Variables	59
Comparison Questionnaire	63
Summary.....	67
Discussion.....	69
Level of Training	70
Report Length	71
Level of Jargon	73
Limitations of the Current Study	74
Future Research	76
Implications for Practice.....	78

Conclusion	79
References	81
Appendix A: Recall Questionnaire.....	90
Appendix B: Preference Questionnaire.....	93
Appendix C: Comparison Questionnaire	94
Appendix D: Examples of Low- and High-Jargon Statements used in the Psychoeducational Reports.....	95
Appendix E: Low-Jargon, Full-Length Report.....	96
Appendix F: Low-Jargon, Summary-Length Report	100
Appendix G: High-Jargon, Full-Length Report.....	102
Appendix H: High-Jargon, Summary-Length Report.....	106
Appendix I: Instructions Checklist	108
Appendix J: Implied Informed Consent Form for Social Science Research.....	109
Appendix K: Teacher Demographic Questionnaire.....	111
Appendix L: Parent Demographic Questionnaire.....	112
Appendix M: IRB Approval	113
Appendix N: Data.....	114

List of Tables

Table 1. Summary of Studies on Psychological Reports and Effects Sizes Reported.....	40
Table 2. Psychoeducational Report Characteristics.....	48
Table 3. Means and Standard Deviations for Recall and Preference Scores by Jargon Level, Parent/Teacher Role, and Report Length.....	54
Table 4. Three-Way Analyses of Variance for Effects of Parent/Teacher Role, Level of Jargon, and Report Length on Reader Recall.....	55
Table 5. Percentage of the High- and Low-Jargon Groups Responding with Correct and Incorrect Responses for Each Recall Item.....	58
Table 6. Means and Standard Deviations for Teacher Recall and Preference by Grade- Level Taught, Level of Jargon, and Report Length.....	60
Table 7. Three-Way Analyses of Variance for Effects of Grade-Level Taught, Level of Jargon, and Report Length on Teacher Recall and Preference.....	61
Table 8. Descriptive Statistics for Teacher Recall and Preference by Report Reading Experience, Level of Jargon, and Report Length.....	62
Table 9. Three-Way Analyses of Variance for Effects of Report Reading Experience, Level of Jargon, and Report Length on Teacher Recall and Preference.....	63
Table 10. Prevalence (%) of Report Characteristics Endorsement Among Parents and Teachers by Jargon Level.....	65
Table 11. Prevalence (%) of Report Characteristics Endorsement Among Parents and Teachers by Parent/Teacher Role.....	66

Table 12. Prevalence (%) of Report Characteristics Endorsement Among Parents and
Teachers by Length of Report Read First.....67

List of Figures

Figure 1. Mean recall score as a function of level of report jargon and reader role as a
parent or teacher.....56

Psychoeducational Reports: Impact of Jargon and Report Length on Teacher and Parent Recall and Preference

According to the National Center for Education Statistics (NCES, 2005) there were 61.4 million children enrolled in public and private elementary and secondary schools in the United States during the 2004-2005 school year. Of those 61.4 million children, 13.7%, or approximately 6,634,000 children, were being served by programs under the Individuals with Disabilities Education Act mandates (NCES). Given that many school children are assessed for an educational disability, but ultimately do not qualify, the number of families involved in the special education process in some manner can be assumed to be much larger than the 13.7% actually receiving the services.

The decision to place a child in special education is an important one. Hopefully, by deciding to place a child in special education, they will be receiving the individualized instruction they need in order to benefit from their education. However, some researchers have pointed out the potential negative effects of special education programs (Skrtic, 1991) and the effects special education labels can have on children (Lovitt, Plavins, & Cushing, 1999) and teachers' perceptions of students (Fogel & Nelson, 1983; Schwartz & Wilkinson, 1987). On the other hand, it would seem that not placing a child in special education due to fear of this stigma can lead to other potentially harmful effects for the child given they will not be receiving the individualized instruction they need. In addition to being recognized in the professional literature, the current education legislation recognizes the importance of this decision by placing numerous requirements on what goes into making this decision.

The Individuals with Disabilities Education Improvement Act (IDEIA) requires that each child suspected of a disability receive a comprehensive assessment and that multiple sources of information be collected and utilized when classifying a child as a child with a disability in the education setting (Assistance to States for the Education of Children with Disabilities and Preschool Grants for Children with Disabilities, 2006). Once information from multiple sources has been collected, IDEIA requires that “a group of qualified professionals and the parent of the child” (Assistance to States, p. 46786) must make the decision as to whether the child qualifies as a child with a disability. If the child does qualify, their parents, as well as general and special education teachers, must be involved in the Individualized Education Program (IEP) team (Assistance to States). When it is being considered whether a child has a specific learning disability, the regulations are even more stringent in regard to the members that must be present: the parents, the child’s general education teacher, and a person qualified to conduct individual evaluations. As a qualified person, the school psychologist is typically involved in these meetings.

Additionally, the importance of the information summarized in the school psychologist’s report is recognized by the National Association of School Psychologists (NASP). The NASP ethics code requires that “School Psychologists prepare written reports in such form and style that the recipient of the report will be able to assist the child or other clients” (NASP, 2000, p. 29). If parents and teachers are going to fully participate in the decision making process as required by law, they will need the input of other members of the team who have completed the evaluation process with the child.

The psychoeducational report is an important mechanism through which the input of the school psychologist can be easily transmitted to the other members of the team. Because the psychoeducational report is the major vehicle for transmitting information to those individuals involved in the decisions for each individual child, the report must be written so that these parties can understand and easily access the results and associated recommendations. A major purpose of the report would be undermined if parents, administrators, and teachers cannot understand the information the school psychologist included in the psychoeducational report.

As one of the multiple sources of information involved in a child's comprehensive assessment, the information conveyed in a school psychologist's report serves many purposes in addition to providing input to parents and teachers. These purposes include informing educational diagnosis and classification, addressing intervention both at school and home, and serving as a permanent product in the child's educational record (Sattler, 2001). In fact, researchers have pointed out that teachers and school personnel see the most important functions of psychoeducational reports to be (a) storing information for school personnel to refer to periodically, and (b) passing on information when other types of communication are not available (Littlejohn, 1977). Therefore, it is important that the report can be easily understood and is written in the most useful, reader friendly manner. In that way, not only can the current team members be fully informed of the information portrayed in the reports, but also future educators can understand the child's strengths and weaknesses and continue to provide a proper education to the child.

Influence of Psychoeducational Reports

Beyond the laws and ethics mentioned above, the importance of the information put forth in the psychoeducational report is underscored by research that indicates reports have the potential to influence the perceptions and opinions of the readers. Mason and Larimore (1974) demonstrated the power that a psychoeducational report can have on the perception of teachers about students. A group of teachers and education students ($N = 60$) read one of three randomly assigned documents. Two were psychoeducational reports written about a hypothetical child and the third was a fable about animals in school, which acted as a control. The reports contained identical content, but the information was interpreted with either a negative or positive bias. After reading their assigned document, the participants watched a videotape of a kindergarten student being administered a readiness test. Respondents indicated whether or not they thought the child got each item correct and rated the child on a 27-item scale containing polar adjectives for various affective and cognitive items (e.g., “stupid-smart, clean-dirty;” p. 47). Results showed a statistically significant effect on the affective and cognitive scale, but not on the teachers’ behavioral observations of correct or incorrect items.

Mason (1973) used a similar technique where teachers and teachers-in-training ($N = 79$) watched a videotape of a kindergarten child being tested. After watching the tape, participants read a negatively biased, positively biased, or neutral psychoeducational report. In this case, the participants first listened to a lecture on either the effects bias can have on perceptions or on general test validity. In other words, those participants in the test validity lecture were not warned of the effects bias can have. Results showed no

effect of warning the participants that biased reports could affect their perceptions. Again in this study, the participants' observations of the child's correct or incorrect answers did not differ based on the bias of the report read; however, expectancy ratings, as measured by grades the participants indicated they would expect from the child in first grade, were affected by the biased reports.

Other research has used similar techniques, but focused on the effects of report factors other than bias in affecting reader perceptions. Schwartz (1977) examined changing the focus of the report and its effect on elementary school teacher's perception of the child as well as their ability as a teacher to work with the child. Each teacher ($N = 92$) watched the same film of a child in a classroom and then filled out a scale to measure baseline perceptions of the child from the film. The teachers then randomly received either one of two reports or an article (the control group) to read. One report focused on the "why" by providing background, explicative and psychodynamic information, while the other focused on the "what" by providing recommendations for working with the child. After reading, the teachers filled out the perception scale again. The two reports affected different areas of perceptions; the "why" report affected teacher perceptions of degree of exceptionality and their feelings toward the child, while the "what" report affected teacher perceptions of the child's ability to improve, potential disruptiveness, and the teacher's feelings of competence with the child. This study is another example of the power reports can have over the reader as the different types of information included, differentially affected the way that the teachers thought of both themselves as a teacher and the child they would be working with.

The effect of favorability of a report (i.e., overall tone, child SES, and child IQ) on teacher expectations was examined in addition to the effects child gender and report style (i.e., behavioral or descriptive) had on teacher expectations (Mertens, 1976). Teachers-in-training ($N = 94$) read one of eight reports constructed for this research. Two reports for each gender were biased favorably and two were biased unfavorably. One favorable and one unfavorable report for each gender were written in a traditional descriptive manner and the others were written in a behavioral manner focusing on recommendations for teachers. After reading a randomly assigned report, the participants scored an essay they were told the child wrote, and filled in report cards predicting the child's grades at the end of the year. Results of these measures showed no statistically significant difference in teacher ratings based on the gender of the child or the style of the report; however, the favorable reports (i.e., written in a positive tone about a child with higher SES and an above average IQ) did lead to better scores on both measures over the unfavorable bias. All four of these laboratory experiments show that biased reports do affect the way readers perceive the child the reports are written about.

While the reports in the research discussed above changed the tone of the entire report, others used a more subtle treatment changing only a small portion of the report (Schwartz & Wilkinson, 1987). Four reports were constructed containing identical information except for the summary section, which was written to support different diagnostic categories (i.e., learning disabled, LD; behaviorally disordered, BD; educably mentally handicapped, EMH; or no diagnosis). The summary section comprised only 5% of the total words in the report. After reading a cumulative folder indicating the child in

question was identified as LD, BD, or EMH, general education teachers ($N = 99$) read one of four psychoeducational reports. Some of the participants read a report consistent with their assigned cumulative folder and others read an inconsistent report.

Questionnaires on teacher perceptions completed after reading the cumulative folder and again after reading the report, showed that teachers' perceptions were affected by reading the psychoeducational report. Changes in perceptions in both positive and negative directions resulted for the various conditions, clearly demonstrating psychoeducational report influence on teacher perceptions, when only 5% of the words in the reports differed.

Because psychoeducational reports can influence teachers' perceptions and because teachers and parents contribute to the team approach to special education identification, it is important that these two groups understand the reports that a school psychologist writes. Research in the area of report writing focuses on two separate types of outcomes: (a) measures of preference for psychologists and consumers, and (b) measures of report understanding (Tallent, 1956). Ratings of preference include many opinions such as the report's usefulness, reader preference for specific information or format, and reader perceptions of comprehension. Measures of understanding are more objective direct measures of a reader's recall and comprehension of the specific information contained in the report. In order for reports to be maximally effective it is essential that reports are both acceptable to and understood by the readers.

Preference for Psychoeducational Reports

Report Preference and Usefulness in General

Overall, the initial research on consumer preference for psychological reports focused on opinions of usefulness and preference, rather than specific reasons views of reports were more or less favorable. Mintz (1968), for example, surveyed 25 clinical psychology doctoral students about psychological reports they had received for their therapy patients. The participants' views of the effects of the reports were measured using 12 items rated on a 4-point scale. Perceptions of effect were extremely low with no item mean higher than "1-slightly." Mintz concluded that the ratings were so low that the usefulness of the psychological reports written should be questioned.

Other research on the general usefulness of psychological reports has produced more positive results. Affleck and Strider (1971) used readers' ratings and interviews to assess whether consumers, who in this case were professionals who had referred patients to a clinical psychologist, found reports useful. The degree to which two samples of readers, taken from two separate 6-month periods ($n = 227$ and $n = 113$), thought the reports provided significant information and contributed to patient care was measured. Over the two 6-month periods reports were sent to the initial referral source along with a reminder of the information the person had originally requested. In the first sample 59% indicated that the report confirmed information and 27% said it was new and significant information. In the second sample, response choices were changed slightly; 48% indicated the report confirmed suspected information, 23% said it presented already well-established information, and 18% said the report contained new and significant

information. Fifty-two percent of the combined samples indicated that the report altered their management of the patient's treatment. Affleck and Strider concluded that, based on this information, reports were useful for subsequent patient treatment.

In other research more closely related to the work of school psychologists, Pope and Haklay (1974) sent a questionnaire to teachers and guidance counselors who had received a report from one clinic in the 6 months before the study. Ninety-one percent of respondents rated the report sent to them as useful. Additionally, Ownby, Wallbrown, and Brown (1982) conducted a descriptive study that asked teachers to describe the content of reports they received from the school psychologists where they worked. The teachers responded to 45 items on a 5-point scale indicating frequency of various types of information that could be present in a psychoeducational report. The final six items on the scale used a 5-point scale to rate teacher opinion on the utility of the reports they have recently received. Ratings for the final six items indicated that the teachers generally found the reports to be somewhat useful. Results were simply lists of frequencies and means for each item and did not provide any tests of differences. This information would be more useful if Ownby et al. had examined the relationship between the information a teacher typically saw in a report and how useful they found psychoeducational reports.

Tidwell and Wetter (1978) measured parent satisfaction with psychological reports using a 17-item questionnaire filled out by parents ($N = 44$) after a feedback conference regarding results of their child's evaluation. Overall, the results showed that parents were satisfied with the clarity and understandability of the reports and valued the information provided. As with the other studies mentioned above (Mintz, 1968; Ownby et

al., 1982; Pope & Haklay, 1974), these results indicate that the readers were by and large satisfied, but the results do not provide information about what makes a report more or less useful.

While these studies show that readers tend to have favorable opinions of psychological reports, not all opinions were positive, indicating that changes could be made to improve preference. In isolation these studies are not instructive as to changes needed in psychological reports, as it is not clear what aspects of the reports make them more or less acceptable to the reader. Other researchers have sought to examine what specifically affects consumers' views of preference for psychological reports. This research examines two categories of variables: (a) characteristics of the report, and (b) characteristics of the reader.

Effect of Report Characteristics

Early studies of report characteristics were more exploratory in nature as opposed to true experiments. Psychologists ($n = 9$), psychiatrists ($n = 12$), and social workers ($n = 11$) from one clinic read reports and commented in the margin about what they found useful or problematic about reports as they read them (Garfield, Heine, & Leventhal, 1954). The participants also graded their overall satisfaction with the report. The four major categories of criticism were (a) lack of supporting data for statements made, (b) lack of clarity, (c) poor organization, and (d) other miscellaneous (e.g., contradictory statements, not understanding the theory used, and length). Based on this information Garfield et al. recommended that in order for reports to be useful, writers should be

concise, avoid generalities and use of technical jargon, give supportive data for inferences, and use behavioral terms.

Mussman (1964) surveyed two groups of teachers (n 's = 12 and 13 respectively) who read either 24 brief hand-written reports of psychological screenings or 25 typical typed reports. Interviews with the teachers suggested they preferred the handwritten report over waiting for the more comprehensive report. This study was informal and reported no quantitative information. Again results did lean toward a shorter format being preferable. As these studies (Garfield et al., 1954; Mussman) were qualitative in nature, the recommendations seem to be made based more on opinion than empirical data. While Garfield et al. and Mussman provide some initial descriptive research, the criticisms identified should be subjected to true experimental research in order to support their impact on readers.

Preference for content. Smail (1990) explored teacher ($N = 90$) ratings of the importance of features of psychoeducational reports. Teachers of students with severe and profound disabilities completed a three-page questionnaire that asked (a) the importance of various features of psychoeducational reports, (b) the frequency of these features in the reports they see, and (c) the participants' demographic information. Results showed a statistically significant difference between what teachers rated as important in psychoeducational reports and what they reported frequently seeing in reports in their schools. In other words, teachers were not getting information they considered important in reports. The feature that teachers rated as most important was having test results reported in a manner that was easily understood, while having tests

described in technical terms was the least important feature. Teachers also wanted specific recommendations and explanation of functional skills, but rated test data, lists of tests, IQ measures, and general recommendations as not important. While this study provides specific information about what teachers valued, and would therefore find acceptable, in psychoeducational reports, the study did not utilize an objective measure. Instead, ratings were based on teacher memory of reports read in the past and judgments based on those memories.

Other studies also have conducted survey research to provide information as to the most acceptable features of reports for teachers. Rucker (1967a) had 19 school psychologists write reports based on a hypothetical case with which they were provided. Five teachers each read the 19 reports, ranked them from 1 to 19 (most to least useful), and explained their reasons for the reports being ranked more or less useful. Rucker hypothesized that higher ranks would be found for reports written by more experienced psychologists' and for reports written by psychologists with previous teaching experience. Neither hypothesis was supported. Teachers indicated the most useful reports included specific interpretation of results and recommendations, and clearly answered the referral question.

Further research has experimentally manipulated various specific aspects of the psychological report, such as content, and examined reader reaction. Results from Schwartz's (1977) study on changing teacher perceptions found that when presented with two reports focusing on either the "what" or the "why," teachers rated the information telling them what to do for the child as more useful than explaining behavior.

Brandt and Giebink (1968) experimentally examined the preferences of elementary and high school teachers ($n = 96$) and administrators with teaching experience ($n = 6$). Each participant read four psychological reports. The reports varied on two dimensions: (a) the concreteness of the recommendations and (b) orientation of the interpretations used in the report. Two reports used an “affection-attention-acceptance” orientation while the other two used a “control-discipline-authority” orientation. One of each type of reports contained recommendations using concrete examples and the others gave abstract recommendations. After reading all reports, participants rank ordered the reports based on their preference. Results showed that readers preferred reports using concrete recommendations. Additionally, reports that used the “affection-attention-acceptance” interpretation were preferred over “control-discipline-authority.”

Preference for format. The aspect of psychological reports probably most easily changed, and therefore most often studied, is the format of the report. In one example of this type of research, staff at a psychological treatment facility, including 15 psychiatrists, 10 staff social workers, 12 third-year psychiatric residents, 8 second-year residents, and 5 first-year residents, read two sets of data written in three different formats (Lacks, Horton, & Owen, 1969). Format 1 was a checklist of 75 items where the writer could circle those that best described the patient. Format 2 was an outline that consisted of headings where the report writer added brief sentences to describe the patient. The third format was a typical report containing the reason for referral, behavioral observations, test evaluation, and a summary. After reading all six reports, the participants rated which they preferred the treatment facility to use in the future. Initial preference was for the

outline report, so it was put in use and preferences were again assessed after 6 months had passed. The outline report was still preferred at the end of the 6 months and those participants who utilized the outline form over the 6 months had more positive feelings about psychological reports. Reasons reported for preference of the outline were that it was a good length, contained less irrelevant information, and was standardized. Due to the multiple differences between the reports, it cannot be determined that report length caused preference for the outline format, but it was one major factor mentioned by the participants.

The organizational format of *psychoeducational* reports specifically, as opposed to the format of *psychological* reports, has also been studied. Pryzwansky and Hanania (1986) created psychoeducational reports using three different formats. The first was a traditional psychoeducational report following a topic format. The second report followed a problem oriented organization and the third report combined the two formats. School psychologists, school guidance counselors, special education resource teachers, and general education teachers read all three of the reports and rated each of the formats using a 5-point rating scale. Each group of school personnel rated the topic organization highest, the mixed organization second, and the problem organization third in terms of preference. These results provided initial evidence that teachers, psychologists, and guidance counselors do detect differences in organizational formats for report writing and these various formats are differentially acceptable.

Littlejohn (1977) used 54 school psychologists, 18 school psychologist educators, 48 teachers, and 44 principals to compare three different psychoeducational report

formats. Format A was a checklist that contained the same information as a traditional report. Format B was a traditional report format and Format C emphasized recommendations with no attempt to develop reasons for the recommendations. After reading all three reports, a questionnaire asked participants to (a) rank the reports on usefulness for improving student learning, (b) identify which of the major report sections they considered “vital,” (c) rank the six major sections on usefulness, and (d) rank 5 of 10 listed functions of psychoeducational reports from no value to most value. Results showed that all four groups of school personnel chose the traditional narrative report (Format B) as most useful and labeled the recommendations section of the report as the most useful. The general observation section was also identified as vital by the highest number of participants.

In a series of studies regarding consumer comprehension of psychoeducational reports, Wiener (1985, 1987; Wiener & Kohler, 1986) measured parent, teacher, and school administrator preference for various report formats including a short format, traditional format, question and answer format, elaborated child description, and elaborated recommendations format. Participants in each of the five studies completed a semantic differential scale (i.e., a rating scale using polar adjectives) to assess their reactions to the reports. Results from each of the studies consistently showed that parents and school personnel preferred to read reports employing more elaboration over those employing less.

Salvagno and Teglassi (1987) compared a traditional psychoeducational report format with an observation-based format that included both qualitative and quantitative

descriptions of the child's behavior. Elementary school teachers ($N = 160$) rated each section of each report on a 5-point scale of "helpfulness in answering the referral problem and promoting understanding of the child" (p. 418). There were no differences in preference for the two report formats compared in this study; however teachers rated interpretive information as more helpful than factual information and concrete, specific recommendations as more helpful than more general ones regardless of report format.

While variable in the methods and characteristics studied, these studies of consumer preferences for various report characteristics consistently suggest that teachers and parents preferred a traditional psychoeducational report format and that reports should employ clear interpretation of the results and specific recommendations. Each of these areas is an aspect of report writing that is recommended by many of the "how to" guides on writing psychoeducational reports. Additionally, while not studied in isolation, it appears that psychology and social work professionals may prefer a shorter format, but teachers and parents may not necessarily prefer a shorter format.

A limitation of the studies of parent and teacher preference for psychoeducational reports as a group (Littlejohn, 1977; Pryzwansky & Hanania, 1986; Salvagno & Teglassi, 1987; Wiener, 1985, 1987; Wiener & Kohler, 1986) is that each study varied the format of the report along with other aspects including elaboration, length, and jargon usage. In each case the traditional report format was preferred. Based on the design of the studies it is not possible to determine if preference for the traditional format was because of modified characteristics of the report, or simply because it was the format with which the participants were familiar, felt more comfortable, and therefore, preferred.

Effect of Reader Characteristics

Just as various characteristics of the report can affect the reader's preference for the report, characteristics of the reader can also affect their preference for the report. Brandt and Giebink (1968), in addition to comparing preference based on the report characteristics discussed above, compared readers' preference based on whether their views were congruent or incongruent with the orientation of the report. Congruence or incongruence was determined using scores from the Minnesota Teacher Attitude Inventory (Cook, Kearney, & Rocchio as cited in Brandt & Giebink), which each participant completed. Results of this comparison showed that preference did not differ based on the readers' measured level of viewpoint on the dimension. So, the reader's views on the measured dimension did not affect their report preference.

Lucas and Jones (1970) investigated the relationships between factors of special education teacher knowledge and experience and their attitude toward psychological reports in the schools. The participating teachers were all special education teachers for students with mild mental retardation ($N = 186$). Additionally, 37 school psychologists completed the questionnaire to allow for comparison between the two groups. The questionnaire was comprised of four sections. The first contained statements about the various possible roles of a school psychologist that respondents ranked based on their views of the present and ideal relative importance of the role. The second section measured knowledge of "educational and psychological functioning of the EMR child, remediation methods and materials, and terms related to psychological testing and reporting" (p. 123). Third, teachers provided ratings of psychological reports they had

received in the past “in terms of communication, recommendations made, composite ratings of reports, and a general rating of psychologists’ helpfulness to their program” (pp. 123-124). The final section asked for general background information from each of the participants.

Results showed both teachers and school psychologists saw differences in what they viewed as psychologists’ present role in the schools and their ideal role. Teacher ratings of psychological services were variable, but teachers who reported more contact with school psychologists rated psychological services more positively. Additionally, teachers who scored higher on knowledge about the psychological function of children who are mildly mentally retarded also gave more positive ratings to the general helpfulness of school psychologists and their reports. Results suggest that the experience a person has with school psychologists and psychoeducational reports will affect raters’ preference for the reports; however, the sample used in this study is limited to a very specific group of special education teachers and has limited generalizability.

The most common reader characteristic to be studied is the reader’s relationship to school children (i.e., parent, teacher, psychologist, etc.). One study of this characteristic compared parent, teacher, school psychologist, and physician ratings of the understandability and usefulness of the traditional psychoeducational reports they received from a psychoeducational clinic (Cornwall, 1990). Four-weeks after the psychoeducational report had been sent, the participants were sent a questionnaire to fill out and send back to the researchers. Results showed that teachers and school psychologists found the reports to be more understandable than did parents and

physicians; however, parents rated the reports as more useful than did teachers and school psychologists.

Tallent and Reiss (1959) asked various consumers of psychological reports, including 71 psychologists, 46 social workers, and 43 psychiatrists, what they found useful in the reports they read in their practice. Analyzing responses showed that there were differences in suggestions based on the profession of the respondent. For example, 74% of psychologists wanted recommendations regarding treatment, whereas only 14% of psychiatrists indicated recommendations were desired. These results suggest that various professionals in the field of psychology will find information differentially useful. The open response format is a limitation in that respondents answered based on what they typically see, but there may be other information they would find useful had they been presented with it. Also, information contained in the psychological reports studied needs to be experimentally manipulated because what people think they want and what they find useful when actually presented with it may be different things.

Pryzwansky and Hanania (1986), in their study of preference for report format discussed above, also compared the four groups (i.e., school psychologists, school guidance counselors, special education resource teachers, and general education teachers) on their preferences. The results showed no differences between the groups, with all groups preferring the traditional organizational format. Additionally, the studies conducted by Wiener (1985, 1987; Wiener & Kohler, 1986) examined preferences of different groups including teachers, parents, and school administrators. While direct comparisons of these various groups were not conducted because each group was part

of a separately reported study, throughout all the studies no differences in preference were found based on the reader's age, sex, years of employment, or nature of employment.

Results of research on the effects of reader characteristics on preference for psychoeducational reports are rather limited, have methodological limitations (e.g., a lack of standardized reports), and do not seem to show a consistent pattern. While some research did not find a difference based on the readers' professional training, background, or experience (Brandt & Giebink, 1968; Pryzwansky & Hanania, 1986; Wiener, 1985, 1987; Wiener & Kohler, 1986), other studies did find a difference (Cornwall, 1990; Lucas & Jones, 1970; Tallent & Reiss, 1959). Further research is needed to clarify this pattern.

Comprehension of Psychoeducational Reports

Consumer preference for psychoeducational reports is not the only important factor. While it is important that the reader view what they are reading as a positive experience, that will not matter if they do not understand what they are reading. One approach researchers have used to examine psychoeducational report comprehension is to use readability formulas to estimate the grade level at which the report is written. If a report is written at a reading level substantially above the educational or reading skill level of the reader, expecting that the reader will be able to fully comprehend the report is unrealistic. Another approach to examine psychological and psychoeducational report understanding is to have readers answer comprehension questions after having read a report. To date, several studies have employed each of these methods.

Readability

In three studies, two researchers took the approach of calculating readability to examine whether reports are written so that parents and teachers will most likely be able to understand them. Harvey (2006) reported on a series of studies examining various variables affecting psychological report clarity. To address the issue of training, 60 excerpts were taken from report models in 20 graduate-level textbooks and report writing handbooks. Results of readability analyses of these excerpts showed the average clinical, neuropsychological, and forensic report to be at a 20.26 grade level and psychoeducational reports to be at an 18.49 grade level. Across reports the readability ranged from 12.8 to 31.6 grade level. While reports intended for parents and teachers were significantly lower in reading level, the levels were still very high. If the examples utilized to train psychologists are written at such a high level, it is likely that after their training is complete these psychologists will continue to write reports at this difficulty level.

Prior to the 2006 study, Harvey had previously studied the readability of psychological reports. In a two-part study, Harvey (1997) calculated the Flesch (1974) grade level for each of 40 reports. Twenty of these reports were written by school psychologists and 20 were written by psychologists employed by clinics or hospitals. Results showed the readability level was well above grade 13 (post-secondary level) for both the school and clinic reports. In the second part of the study, Harvey examined the readability of the reports written by students in a school psychology training program and again they were written above grade 13. Similarly, Weddig (1984) examined 50

psychoeducational reports obtained from several school districts. Using Fry's (1977) readability formula, the median grade level for the 50 reports was found to be 14.46 (post-secondary level).

Given the professional training of school psychologists, it is not surprising that reports are at difficult readability levels. A survey of school psychologists indicated 97.3% of school psychologists surveyed hold at least a master's degree and almost 30% hold a doctorate (Curtis, Hunley, Walker, & Baker, 1999). Writing reports at a level above grade 13 would be expected from school psychologists and may be acceptable for teachers given their level of education. Results of the Schools and Staffing Survey conducted by the NCES showed that 99.3% of teachers nationwide hold a bachelor's degree (NCES, 2004) and suggested that a reading level beyond grade 13 may be acceptable for teachers; however, parents' level of educational attainment is not necessarily the same as teachers'. Information from the U.S. Census Bureau (2006) shows that approximately 84% of the population ages 18 years and over has completed school through grade 12, while only 25% have completed a Bachelor's degree or above (completed school through grade level 16). Thus, a reading level beyond grade 13 will likely be beyond the level at which parents from the general population are able to read, and can lead to problems in their understanding what the report is trying to convey.

Psychological Professionals' Comprehension

Cuadra and Albaugh (1956) directly measured comprehension of information intended to be conveyed by the author of psychological reports. Twenty-four multiple-choice questions were created for each of four psychological reports. Authors of the

reports were consulted to ensure questions and answers did in fact represent information present directly or strongly implied in the report. Each of 56 participants (psychology trainees, staff psychologists, social workers, psychiatrists, and graduate and student nurses) read all four reports and answered the questions for each. The combined accuracy of all participants was only 53%. There was a statistically significant difference between groups. The two psychology groups had highest agreement with the report writers (i.e., highest percentage of participants indicating the correct response), while the two groups of nurses had the lowest agreement with the report writers.

Cuadra and Albaugh (1956) also examined the degree of correspondence within the members of the various groups of participants by calculating the number of questions where members of a group (i.e., psychology trainees, staff psychologists, social workers, psychiatrists, or graduate and student nurses) reached 2/3 agreement on a single response choice. This ranged from 36% of items for the nurses to 71% of items for the psychology trainees. So, even psychologists failed to reach 2/3 agreement on their understanding of approximately 30% of the items. The results support many of the criticisms about the failings of psychological reports to clearly convey meaning. The author points out there were few “gross errors” (p. 113) and most were errors of degree. Degree, however, can be a very clinically important characteristic.

Dailey (1953) measured practical utility of psychological reports. Practical utility was defined as the “relevance to possible decisions about treatment of the patient described,” (p. 297). Nine reports were read by seven clinical psychologists, after which they rated 32 possible treatment decisions as appropriate or not. The psychologists clearly

agreed on only eight additional treatment decisions beyond those that were agreed on before reading the report. The author concluded that because the reports did not substantially change the recommendations that would have been made, the reports were not clear and useful to psychologists. Several aspects of style including report length, average sentence length, average number of technical terms, and average number of personal terms also were measured. It appeared that the longer the report and the greater number of technical terms, the higher the clarity of the report. A limitation to this study is analysis was conducted solely on agreement and did not examine whether decisions were correct. Additionally, agreement on the treatment decision may not be a good measure of the clarity of a report because there may be more than one appropriate decision regarding a specific problem.

These two studies have many limitations with regards to comprehension of psychoeducational reports. Both simply studied the understandability of the reports and not what specific characteristics of the reports made them more or less comprehensible. Additionally, both examined comprehension of professionals in the psychological fields and not of parents or teachers who would be the typical consumers of psychoeducational reports. Other researchers have addressed some of the limitations seen in this initial research by modifying aspects of the reports studied and involving groups of school-based consumers of psychological reports.

Parent Comprehension

As was mentioned in regard to report preference, one characteristic of psychoeducational reports that is easy to manipulate is the organization, or format, of the

report. This is the aspect upon which the majority of studies on comprehension of psychoeducational reports have focused. In a series of studies Wiener explored this area. Wiener and Kohler (1986) created three different types of psychological reports written about the same hypothetical child. Format A was the Short Format that comprised a single page, single spaced with no data reported, and used psychological jargon to keep the report concise. Specific recommendations were given but were not elaborated upon in order to keep the report concise. Format B applied a Psychoeducational Report Format using three single-spaced pages and subject headings in order to organize the information by domain. Jargon was explained in text or avoided all together, and recommendations were explained. Format C was the Question-and-Answer Format. This format was similar to Format B except the report was organized by referral question, not by subject heading, and it was four single-spaced pages in length. Parents of children with a diagnosed disability ($N = 45$) filled out a 14-question, 5-option multiple-choice comprehension assessment after reading one of the three reports. The participants who read the psychoeducational and question-and-answer format had higher scores on the comprehension measure than those who had read the short format ($\eta^2 = .35$). Also, the parents who had attended some college or had a college degree showed higher comprehension regardless of format ($\eta^2 = .15$).

Other researchers also have examined ways to modify psychoeducational reports in an attempt to improve parents' understanding. Weddig (1984) modified a report by rewriting a traditional report at an easier readability level, eliminating unnecessary information, and replacing educational and psychological terminology with descriptions

of the behavior. Parents ($N = 114$) read either the modified report or a traditional psychoeducational report and then answered 19 objective questions to assess their comprehension. Those who had read the modified report responded to more of the questions correctly ($\eta^2 = .14$) and parents with more education responded to more of the questions correctly ($\eta^2 = .10$), indicating they had a better understanding of the content. Weddig concluded that psychoeducational reports should be written using the modifications used for writing the study's modified report. However, this study, as well as the study conducted by Wiener and Kohler (1986), did not separate the modified components of the report to determine which ones were making the report more understandable. The authors simultaneously changed many aspects of the reports including length, readability level, inclusion of jargon, and amount of elaboration. Any one, or combination, of these report characteristics could be acting to make the studied reports more understandable for parents. Also, while both authors claim to be measuring comprehension, they do not include the questions used in their studies, so it cannot be ascertained whether the questions were actually measuring comprehension.

Teacher and School Personnel Comprehension

Wiener and Kohler's (1986) study of parent comprehension discussed above was one of a series of similar studies of comprehension. Rather than parent comprehension, the other studies (Wiener, 1985, 1987; Wiener & Kohler, 1986) focused on teacher and other school personnel's comprehension of various psychoeducational report formats. These studies employed identical methods to those described for parent study (Wiener & Kohler, 1986). In the first (Wiener, 1985), elementary school teachers ($N = 81$) taking an

introductory level in-service course on special education had results similar to those found for parents. Specifically, teachers' scores after reading one of the three formats showed that teachers comprehended the psychoeducational and question-and-answer formats significantly better than the short format ($\eta^2 = .32$). The subsequent study (Wiener, 1987), involved 42 school principals and vice principals taking an introductory in-service course in special education. Again, similar results were found with the administrators comprehending the psychoeducational and question-and-answer format better than the short format ($\eta^2 = .14$). As with the parent study (Wiener & Kohler, 1986), these two studies (Wiener, 1985, 1987) failed to isolate the various aspects of the report that were altered, (i.e., organization, elaboration of recommendations, and/or jargon usage); therefore, one cannot conclude that the removal of jargon was the modification that led to higher comprehension scores.

To address this limitation of previous studies, Wiener (1987) sought to examine which aspects of the report formats led to improved comprehension in a two-part investigation. In Part 1, Wiener used the short and psychoeducational formats from her earlier studies and added two new formats. Format D (Elaborated Child Description) used the recommendations from the short format and the child description from the psychoeducational format; Format E (Elaborated Recommendations) did the opposite and used the recommendations from the psychoeducational format and the child description from the short format. Forty-nine elementary school teachers read one of the four report formats and answered the same questionnaire used in the previous studies. Results revealed that teachers performed better on the measure of comprehension with

psychoeducational format than any of the other three formats ($\eta^2 = .25$). Also the elaborated recommendations led to greater comprehension than the short format, indicating that reports with elaborated recommendations led to better comprehension than reports with no elaboration. The comprehension results were also analyzed by type of comprehension question (nine addressed child description and five addressed recommendations). These results were similar and showed that teachers who had read elaborated forms of those sections performed better than those that had read the short forms.

In a follow-up to this study, 87 intermediate and secondary teachers read one of five reports (Wiener, 1987). These included the four formats from the first part of the study in addition to the question-and-answer format from previous studies (Wiener, 1985, 1987; Wiener & Kohler, 1986). A new 15-item comprehension scale was designed for use in this study. Results in this case displayed no significant differences in overall comprehension ($\eta^2 = .04$). However, when analyzed separately, differences were seen in comprehension of the recommendations with higher comprehension for the short, question-and-answer, and elaborated recommendations formats over the elaborated child description format. These results were inconsistent with results from Part 1 that showed the elaborated recommendations sections led to higher comprehension, because in this case the short format did not have elaborated recommendations. Overall, the psychoeducational format and question-and-answer format led to better comprehension than did the short format. Wiener (1987) claimed these results indicated jargon should be reduced in report writing because comprehension scores were better for reports where

jargon was reduced. Unfortunately, this claim overlooked the fact that those reports with reduced jargon also were longer and included more elaborate descriptions; therefore, the individual effects of these two aspects of the reports cannot be determined.

The Use of Jargon

Psychological report writing guides commonly suggest reduction or elimination of jargon or technical language from psychoeducational reports to improve consumer comprehension (e.g., Bradley-Johnson & Johnson, 2006; Lichtenberger, Mather, Kaufman, & Kaufman, 2004; Ownby, 1997; Sattler, 2001). However, an examination of the literature shows that there is little research on jargon in psychoeducational reports and no empirical evidence to support the claim that replacing jargon with common language will improve understanding of or preference for the report. Given the paucity of evidence concerning the use of jargon in psychoeducational reports, one must look to studies in associated areas such as the small body of literature regarding the utility of jargon in school consultation and intervention.

Jargon in Consultation and Intervention

The majority of research on jargon use in consultation and intervention does not focus on the use or non-use of jargon, but more specifically focuses on the use of behavioral jargon as opposed to other types of jargon. Woolfolk, Woolfolk, and Wilson (1977) conducted two studies comparing the use of humanistic versus behavioral jargon. The two studies employed identical methods but used college juniors ($N = 144$) in one study and graduate students ($N = 50$) in the other. Each participant saw the same tape of a teacher using reinforcement. Prior to the viewing they were given different descriptions

and justifications of the intervention that used either behavioral or humanistic language. Participants evaluated the intervention using a Likert-type scale as well as a semantic differential scale. Results indicated favorable ratings when the intervention was described in humanistic terms rather than behavioral language. When the humanistic description was given, the videotaped teacher was rated more favorably on her personal qualities and the teaching method was rated as being significantly more effective.

Witt, Moe, Gutkin, and Andrews (1984) studied the use of jargon and its effects on intervention acceptability. One hundred and twelve teachers were given case descriptions to read that varied based on severity of the problem and the type of technical language used to describe the intervention (behavioral, pragmatic, or humanistic). After reading the case description each teacher filled out the Intervention Rating Profile to rate the general acceptability of the intervention. Results showed that the type of language used in the intervention description influenced the acceptability of the intervention such that pragmatic language was more acceptable than behavioral or humanistic language.

Kazdin and Cole (1981) separated the effect of labeling a treatment with a specific term and of the actual content of the treatment description. One hundred-fifty-one undergraduate students read one of seven different teaching method descriptions. The descriptions were given one of three labels (behavior modification, humanistic, or neutral) and were phrased using behavioral, humanistic, or neutral terminology. The seven descriptions were created by crossing each of the terminologies with its matching label as well as the neutral label. Results from a Likert-type scale as well as a semantic differential scale indicated that the behavioral method was rated the least favorably

independent of the label it was given. Given the neutral description, a label of behavior modification did not lead to more a more negative evaluation, but being described in behavioral terminology did lead to a more negative evaluation. Overall, teachers' perceptions were affected by the type of descriptive language employed. While the label given to the description might not have an impact, the terms used to describe the teaching method or intervention tended to influence how the teacher perceives the treatment.

Studies conducted to evaluate the effect of using jargon versus no jargon in intervention description have shown mixed results; however, contrary to popular belief the results have either shown no difference or that using jargon was more acceptable than not using jargon. No study has shown jargon to have negative effects on teacher perception of interventions. The second part of the Kazdin and Cole (1981) study showed that when the content of the intervention description was held constant, using jargon to describe the intervention led to more favorable ratings than when no jargon was used.

Hyatt, Tingstrom, and Edwards (1991) supported the contention that using jargon can facilitate the acceptability of interventions for teachers. Sixty-seven general and special education teachers as well as 70 undergraduate students each read a case description explaining a time-out procedure before they completed the Treatment Evaluation Inventory. Half of the participants read a description using behavioral jargon and the other half read a description that did not use jargon. While results showed there was no difference in acceptability for undergraduates, differences for the teachers emerged. Teachers rated the intervention as more acceptable when jargon was used in the description as opposed to the description without jargon.

Similar results were found in another study (Hyatt & Tingstrom, 1993), which extended the methods used by Hyatt et al. (1991). In this case, 94 general and special education teachers rated the acceptability of an intervention while many factors of the intervention were varied. Two interventions were described (punishment and reinforcement based) in either written or videotaped formats, using either jargon or no jargon. Teacher ratings of acceptability of the described intervention varied. Teachers rated the punishment intervention as more acceptable when jargon was used to describe it, but this was not the case with the reinforcement intervention. Also, within the jargon condition, the written description of the punishment intervention was rated as more acceptable than the videotaped description, but no differences were found between written and videotaped formats in the other conditions. The results showed that teachers may prefer the use of jargon in the description of punishment-based interventions.

Taken together, these studies indicate that jargon used in consultation and intervention influences teachers' preference and acceptability ratings; however, such results do not support existing recommendations for psychologists to reduce or eliminate jargon (e.g., Bradley-Johnson & Johnson, 2006; Lichtenberger et al., 2004; Ownby, 1997; Sattler, 2001). A limitation of the consultation and intervention literature is that only acceptability of the intervention was assessed, not whether the teachers understood the interventions. Because the recommendation to reduce jargon is not supported in one aspect of school psychology services, it follows that reduction or elimination of jargon may not be supported in other aspects, such as report writing.

Jargon Use in Psychological Reports

Jargon in isolation. A limited amount of research has been conducted to study understanding of technical words used specifically in psychological reports. Harvey (2006) examined what various professionals in the field of psychology understood to be the meaning of “average intelligence.” Members of the clinical, school, and counseling divisions of the APA ($N = 208$) responded to a mailed survey asking for their definition of the phrase. Sixty-seven percent gave the numerical definition provided by many test publishers, 20% said it was one standard deviation from the mean, 7% said IQ greater than 100. Other definitions included “not retarded” and being able to function without major modifications to the classroom. On just this one term, even psychologists did not agree on its meaning, with definitions covering a huge range of IQ scores and performance levels. This is problematic because if the psychologists writing the reports do not agree on what they mean when they use a word, readers cannot be expected to understand what the writer is trying to convey to the reader.

Obviously, Harvey (2006) studied the meaning of a single term, but other researchers have used similar techniques to examine a broader array of psychological and educational terms. Auger (1974) examined the meanings of 10 behavioral terms from the Peterson-Quay Behavior Problem Checklist (Quay & Parsons as cited in Auger). The author assumed that if readers understood the meanings of the terms, independent importance ranking of the terms and their definitions would be similar. The 10 terms were each defined using a behavioral description agreed upon by three psychologists. Professional staff ($N = 28$) at a child treatment center ranked the terms and the

descriptions based on their importance in working with a child. Six weeks later, a subset of participants was asked to rank the terms and definitions again. Correlations between the six-week rankings were statistically significant, indicating reliability on the rankings; however, correlations between ranks for the terms and their descriptions were not significant, indicating participants were not clear on the meaning of each term.

Grayson and Tolman (1950) examined 28 psychological reports, identified 171 psychological terms, and selected the 50 most frequently occurring terms to study. These 50 terms were defined by 20 psychologists and 17 psychiatrists who responded to a mailed survey. The definitions provided by each participant for the first 20 words were categorized. There was large variation in responses on all 20 words analyzed. The authors indicated that few terms had three quarters of responses fall into one category. These results again point to the ambiguity in the terms used in psychological reports even for other psychologists.

Siskind (1967) conducted a 15-year follow-up to Grayson and Tolman (1950). Twenty psychologists and 17 psychiatrists gave definitions to the same terms used by Grayson and Tolman. After definitions were categorized as in the original study, Siskind calculated percent agreement for each word in both the original and replication study. Results supported Grayson and Tolman's estimation that rarely did three quarters of responses for a term fall in a single category. The mean percent agreement for the category definitions on a single word falling in a single category actually ranged between 46 and 57 percent. Siskind points out that using these terms over the 15 years has not improved the clarity of their meaning.

Beyond the open response format, other researchers have used multiple-choice formats to test readers' understanding of technical terminology. Shively and Smith (1969) tested the understanding of 159 teachers, school counselors, and students in a teacher education program on the meaning of 30 technical or ambiguous words used in psychological reports. The results showed that the average score was 54% of the items correct, and for 11 of the 30 items less than 50% of the teachers responded to the item correctly. These results suggested that neither teachers nor school counselors have a high level of understanding of many of the words that are used in psychological reports.

Rucker (1967b) also applied a multiple-choice test to evaluate teachers' and school psychologists' understanding of certain terms commonly used in psychological reports. By comparing the responses of the two groups, the author hoped to determine the effectiveness of using certain terms in reports and how they might lead to miscommunication. Results showed that although psychologists and teachers agreed on the meaning of some terms, there were others for which the psychologists and teachers agreed within their group on a different definition for the same term. In essence, the psychologists agreed on one definition whereas the teachers agreed on another, indicating that using these terms in reports without defining them could be leading to miscommunication between psychologists and teachers.

Similarly, Grove (1985) used a multiple-choice test format to directly measure understanding of psychological terms frequently found in psychoeducational reports and compare groups on their understanding. Thirty psychologists, thirty teachers, and thirty parents with at least a high school reading level responded to the 24-item, four-choice

multiple-choice questionnaire. Each question's four choices included one correct answer, one that distorted the meaning, one using words with ambiguous meaning and one incorrect answer from the same general theory. Results showed statistically significant differences between the groups with psychologist scoring highest, parents scoring lowest, and teachers in between. Eighteen of the twenty-four items were not understood to have the same meaning for the three groups as there were differences between the answers the groups chose as correct. The author concluded that psychological reports contain information that parents and teachers do not typically understand and even psychologists may not always understand, as this group averaged three incorrect items.

Effect of jargon in psychoeducational reports. Finally, while the previous studies looked at jargon in isolation, a few studies have studied jargon within the context of psychoeducational reports. Wiese, Bush, Newman, Benes, and Witt (1986) studied the effects that level of jargon (high, moderate, or low) employed in a psychoeducational report had on teachers' perceptions of the report. After reading one of the three reports, 180 teachers and pre-service teachers completed the Psychological Report Evaluation Profile (comprised of 23, 6-point Likert-type items) to assess their perceptions of usefulness, understanding and comprehension, educational relevance, and student behavior characteristics. Results showed that the level of jargon affected the participants' self-reported understanding and comprehension of the report, but did not affect their perception of the other three areas assessed. Notably, this study did not examine actual comprehension, only the participants' perceptions of their comprehension.

Bucknavage (2005) studied jargon use in psychoeducational reports and its effects on readers' understanding. Thirty-two student teachers and 126 beginning education majors or non-education majors read a psychoeducational report containing either a high- or low-level of jargon. They then completed a multiple-choice questionnaire assessing their recall and a Likert-type questionnaire measuring perceived comprehension of information contained in the report and preference regarding the report. Results indicated that readers' level of training in the field of general education did not affect their recall, preference, or comprehension. However, the level of jargon contained in the report did have an effect on each of the three outcome measures, with the low-jargon report leading to higher recall scores and higher preference and perceived comprehension ratings. As with Wiese et al. (1986), Bucknavage (2005) only measured recall and perceived comprehension, not actual reader comprehension.

To evaluate school psychologists' views of the expository writing process (a descriptive or explanatory writing process), Ownby (1990) had 33 school psychologists rate 32 statements developed from psychoeducational reports that either used the expository process model or did not. The expository process model proposes the use of Middle Level Concepts (MLC) to improve understanding. According to Ownby, use of the expository process model means that the report should follow a sequence of basic data (something known to the writer and the reader), then the MLC (which is new information to the reader), and then a conclusion based on the basic data and MLC. Ownby suggested that when the expository process is not used there will be unexplained jargon in the report because there will be no basic data or information that the reader

already understands; thus, the non-expository statements represent the jargon condition while expository statements represent the non-jargon condition. Psychologists' ratings of the expository process items versus the non-expository process items showed that they rated the expository items as being more credible and persuasive than the other items. The author posited that these results are important because psychologists are knowledgeable about the content of psychological reports and therefore should be the least bothered by the use of unexplained terms or jargon. If psychologists found these statements more credible, then teachers and parents who have less knowledge in the area should also find statements containing more explanation to be more credible.

Rafarth and Richmond (1983) also examined technical language used in psychological reports. They instructed teachers, undergraduate students, and school psychology interns to rate the clarity, understandability, and informative value of 25 terms commonly used in psychological reports. The interns also rated the frequency of which they used each of the terms in their reports. Results indicated that the terms that interns reported using most often were generally rated as being useful by teachers and students. An exception noted by the author was the term 'hyperactive', which the interns described as not useful and that they rarely used, while teachers described the term as useful. Teachers and interns disagreed on the utility of many commonly used terms and led the author to conclude that these groups may not have understood the terms to mean the same thing.

As evidenced by this review of the literature, research on jargon in psychological reports is extremely sparse. The studies that focused on understanding of jargon (Auger,

1974; Grayson & Tolman, 1950; Grove, 1985; Harvey, 2006; Rucker, 1967b; Shively & Smith, 1969; Siskind, 1967) were primarily conducted in the 1960's, and the one current study only considered the meaning of one term (Harvey, 2006). These studies do suggest that various groups do not have a shared meaning, between groups, of many of the terms studied, which may impede communication between the groups. However, due to the dramatic changes in special education and the terminology used, results cannot be generalized to today's culture.

To date, little research exists to support the commonly made recommendation that removing jargon from psychological reports will improve teacher comprehension and/or preference for reports. Two studies (Bucknavage, 2005; Wiese et al., 1986) pointed to the idea that readers perceived that a high level of jargon impeded their ability to understand psychological reports; however, only reader perception and/or recall was measured, not readers' comprehension. Likewise, Ownby's research (1990) indicated that when jargon was explained the report appeared more credible, but he did not look at whether comprehension improved when reports were written using the expository process model. Rafterth and Richmond (1983) attempted to make conclusions about teachers' understanding of technical terms, but again, this research failed to evaluate comprehension so these conclusions cannot be made.

Table 1

Summary of Studies on Psychological Reports and Calculated Effect Sizes

Study	Consumer	<i>N</i>	Dependent Variable	Independent Variable	Effect size (η^2)
Comprehension/Recall					
Bucknavage (2005)	Student teachers & College Students	158	Recall	Report format	.27
	Student teachers & College Students	158	Perceived comprehension	Report format	.22
Cornwall (1990)	Parents, physicians, teachers, psychologists	80	Perceived understanding	Type of consumer	.05
Weddig (1984)	Parents	114	Comprehension	Report format	.12
Wiener (1985)	Teachers	81	Comprehension	Report format	.32
Wiener & Kohler (1986)	Parents	45	Comprehension	Report format	.36
Wiener (1987)	School administrators	42	Comprehension	Report format	.14
	Elementary teachers	49	Comprehension	Report format	.25
	Secondary teachers	87	Comprehension	Report format	.04
Wiese et al. (1986)	Teachers	180	Perceived comprehension	Report format	.24
Preference					
Bucknavage (2005)	Student teachers & College Students	158	Preference	Report format	.13
Ownby (1990)	Psychologists	33	Preference	Report format	.67
Wiener (1985)	Teachers	81	Preference	Report format	.08
Wiener & Kohler (1986)	Parents	45	Preference	Report format	.14
Wiener (1987)	School administrators	42	Preference	Report format	.11
	Elementary teachers	49	Preference	Report format	.14
	Secondary teachers	87	Preference	Report format	.09

In summary, research in the area of psychological report writing, particularly concerning jargon usage, is somewhat sparse and little support exists for many of the claims made in these “how to” guides. The limited extant research, suggests that removing or limiting jargon from psychoeducational reports does improve reader comprehension and preference (see Table 1; Bucknavage, 2005; Ownby, 1990; Weddig, 1984; Wiener, 1985, 1987; Wiener & Kohler, 1986; Wiese et al., 1986), but this finding is typically confounded by other variables such as length of report and use of familiar versus unfamiliar formats. Finally, this literature suggests that various groups of consumers may differentially understand and value information presented in psychoeducational reports (Cornwall, 1990; Lucas & Jones, 1970; Wiener & Kohler, 1986). Research must focus on providing strong empirical support for these claims so that school psychologists can ensure that they are writing effective psychoeducational reports and working to enhance communication between home and school.

The Present Study

Parents and teachers are required members of the team responsible for making decisions about a child’s special education eligibility and programming (Assistance to States, 2006). In order to fully participate in these important decisions about a child’s education, parents and teachers need to be able to understand the information presented to them by other school professionals. School psychologists are one of the primary groups of school professionals who need to disseminate information to the other team members, and therefore, need to ensure they are writing in a manner that is understandable and acceptable to readers.

There are numerous guides and guidelines for writing psychological or psychoeducational reports (e.g., Bradley-Johnson & Johnson, 2006; Lichtenberger et al., 2004; Ownby, 1997; Sattler, 2001) that provide many guidelines for effective report writing including suggestions for proper grammar, writing format, style, and word choice. However, these books promote expert opinion and provide little evidence of empirical validation. One common guideline provided by many guides is to reduce or eliminate the use of jargon in report writing. Jargon is defined as the specialized, technical language of a group that is not understandable to those outside the group (Reber & Reber, 2001). In the case of psychoeducational reports, jargon is comprised of psychological and educational terms that cannot be understood by all members of the team (i.e., parents, teachers, and other school personnel) making decisions about a child's educational program.

The purpose of this study is to examine two strategies for improving teacher and parent comprehension of psychoeducational reports. Specifically, the effects of level of jargon and length of report on teacher and parent recall and preference will be examined in order to provide empirical evidence regarding the commonly made recommendation to reduce or eliminate jargon in the reports written by school psychologists and provide initial empirical evidence for the impact of providing summaries rather than full-length reports.

Research Questions

The present study will address the following research questions: (1) Does replacing psychological and educational jargon in psychoeducational reports with

common language descriptions increase consumers' (a) recall of the information presented in the report and (b) preference for the report? (2) Does providing readers with a summary of the psychoeducational report rather versus a full-length version of the report affect consumers' (a) preference for, and (b) recall of the report? (3) Is there a difference in consumers' (a) preference for, and (b) recall of psychoeducational reports based on whether they are a parent or a teacher?

Research Hypotheses

Given the common expert opinion that removing jargon will improve comprehension, in addition to research indicating that readers performed better on measures of comprehension when the jargon in reports was reduced (Weddig, 1984; Wiener, 1985, 1987; Wiener & Kohler, 1986) and readers felt that jargon would impede their comprehension (Bucknavage, 2005; Wiese et al., 1986), it is hypothesized that reports with low jargon will lead to higher recall and preference over the high-jargon versions. Research that has indicated that reducing jargon leads to higher comprehension also indicated that longer versions of psychoeducational reports lead to high comprehension scores (Weddig, 1984; Wiener, 1985, 1987; Wiener & Kohler, 1986). Therefore, reading the full-length report is expected to result in higher recall and preference scores. Finally, based on prior research showing that school personnel found psychological reports to be more understandable than did parents (Cornwall, 1990), that readers with more education showed higher comprehension (Weddig, 1984; Wiener & Kohler, 1986), and that readers with more knowledge on the subject had more positive ratings of school psychologists and their reports (Lucas & Jones, 1970), it is posited that

teachers will have better recall and higher preference for psychoeducational reports -- regardless of the level of jargon and report length -- than parents (who have less training in, and contact with, the field of education).

Method

Participants

Participants in the study were 82 teachers and 49 parents from a medium size public school district in the Northeast. The teacher and parent samples consisted of 73 and 35 females respectively. The mean age of teachers was 39 with a standard deviation of 11 (range = 23 - 62), and they reported a mean number years experience of 11 with a standard deviation of 8 years (range = 1 – 34). Similarly, parents reported a mean age of 37 with a standard deviation of 11 (range = 22 – 62).

As required by the nature of their employment, all participants in the teacher sample had completed at least a bachelor's degree. In addition, 95% of the sample had completed a graduate degree. No parents reported less than a high school degree, while 8% reported obtaining a high school diploma, 29% completed some college, 53% graduated from college, and 10% obtained a graduate degree. The racial-ethnic composition of the overall sample was 75% Caucasian, 9% Hispanic, 5% African American, 4% Asian American, 2% Other, and 5% of participants declined to answer.

All teachers in 3 elementary schools in the district were asked during regularly scheduled faculty meeting times to participate in the study on a voluntary basis. Parents were asked during various regularly scheduled parent group meetings to participate on a voluntary basis. Measures were distributed and completed at that time.

Measures

The outcome measures used in this study were developed for this study. The first scale was a 20-item recall measure assessing the participants' recall of information contained in the report (Appendix A). Based on item-analysis of a pilot study with pre-service teachers and college undergraduates, four items were trimmed from the original 24 items. The second measure was a 12-item Likert-type scale to assess respondents' judgment of the perceived comprehension and preference of the report (Appendix B). Based again on results of the pilot study, the two original 6-item scales were combined to form one unified score. The final measure was a 9-item comparison questionnaire (Appendix C) that asked the respondents to directly compare the summary and full-length versions of the psychoeducational report. In order to ensure the measures did not contain confusing or misleading questions, the original versions of the measures were reviewed by three school psychology faculty members and revised based on their comments. Next, three undergraduate students and three school psychologists-in-training were asked to think-aloud, telling the researcher what they were thinking as they completed the two measures. Based on the students' comments the measures were again revised to form the final version of the measures.

The content validity of the measures was assessed by asking seven current school psychologists if they felt the content of each of the measure used in the study measured what it purported to measure. All seven respondents agreed that each of the three measures met this criterion.

Psychoeducational Report

A psychoeducational report created for use in another research study (Miller, 2005) was modified to create the high-jargon and low-jargon reports. The original report was modeled after the traditional psychoeducational report format as described by Sattler (2001) and contained information about a second-grade boy referred for assessment due to academic difficulties. Full-length versions of both the high- and low-jargon reports were created first. To create the high-jargon report, descriptions of psychological or educational terms in the report were removed and replaced with the professional term the description was explaining. Conversely, to create the low-jargon report, any technical term was replaced with a common language description of the term. The format of the two reports was kept exactly the same, making the only difference the wording of the information being conveyed. See Appendix D for examples of the low- and high-jargon alternatives used in the reports.

To ensure that the high and low-jargon reports were clearly written, the original versions of the reports were reviewed by three school psychology faculty members and revised based on their comments. As with the outcome measures, three undergraduate students and three school psychologists-in-training were asked to think-aloud, telling the researcher what they were thinking as they read the reports. Based on the students' comments the reports were again revised to form the final version of the measures.

To ensure that all jargon was removed from the low-jargon report and that all terms removed should in fact be considered jargon, the initial high-jargon report was given to 19 school psychologists-in-training. Each of the trainees was asked to read the

report and identify all words they thought should be considered jargon. The trainees were told to consider jargon as any psychologically or educationally technical term. Any term with 60% agreement was removed from the report and replaced with a common language description of the term to create the final low-jargon report. If a term that had been initially considered jargon did not have 60% agreement, then it was not considered jargon in the final version of the reports.

To create the summary version of the reports, the student information, summary, and recommendation sections were copied from the full-length versions of the high- and low-jargon reports. Selected sentences were copied from the background sections and added to the summaries to provide some additional detail. The additional sentences from the high- and low-jargon versions contained parallel information. These reports can be found in Appendices E through H.

The reading levels of the reports used in this study were determined using the Flesch-Kincaid Grade-Level Readability Formula on Microsoft Word 2002. Table 2 presents the readability statistics for the four reports. The structure of the reports was kept consistent but because the jargon words were replaced with common language descriptions, the low-jargon report contained more words than the high-jargon report.

Table 2

Psychoeducational Report Characteristics

	High-Jargon, Full-length Report	High-Jargon, Summary Report	Low-Jargon, Full-length Report	Low-Jargon, Summary Report
Words	1470	505	1604	565
Paragraphs	51	22	51	22
Sentences	86	26	90	29
Words per Sentence	16.0	17.5	16.8	17.7
Flesch-Kincaid Grade-Level	11.9	12.0	10.8	10.9

The content validity of the reports in terms of level of jargon was assessed within the context of the study. Within the comparison survey respondents were asked to indicate whether they felt the level of technical language used in the reports read was high, moderate, or low by choosing from three responses indicating the level of words or phrases contained in the report that were unfamiliar or had meanings that were unclear to the participant. Results showed that only 5 participants rated the level of jargon to be high; all of these participants were in the high-jargon condition. Chi-square analysis indicated that rating the level of jargon as low or moderate was related to the whether the participant read the high- or low-jargon version of the report, $\chi^2 = 31.26$, $df = 2$, $p < .001$. Those participants who read the high-jargon version indicated at a higher frequency that there were “some” unfamiliar words, while those who read the low-jargon reports indicated “very few” at a higher frequency. While this data indicates the different levels

of jargon may not have been perceived by readers to be as large as intended, they do support that the reports did in fact represent differing levels of jargon to the study participants.

Procedure

Each participant in the study was provided with a packet of study information. The packet contained the following in order: instructions checklist (Appendix I), implied consent form (Appendix J), two randomly ordered reports (summary- and full-length version of either the high- or low-jargon report), recall questionnaire, preference questionnaire, comparison questionnaire (to directly assess preference for the summary- or full-length version), and demographics questionnaire (Appendices K & L). One half of the packets contained high-jargon reports while the other half contained the low-jargon version. Each participant received only high-jargon or only low-jargon reports. Within each jargon condition, half of the packets randomly received the summary version to read first while the other half received the full-length report first. Participant responses to the recall questions and preference questionnaire were based only on the first report in their packet; therefore, half of participants answered questions based on the summary version and half answered based on the full-length report. The second report in each participant's packet was used only for direct comparison of the preference of the summary and full-format.

The researcher provided instructions to participants in both written checklist and oral formats. First, participants read the consent form that explained the purpose of the study, the time involved, and the participant's rights as a research participant. This

research protocol was submitted for review by the Institutional Review Board; approval is found in Appendix M. Second, participants read their first report, opened the brown envelope and removed the recall questions and preference scale contained inside. Third, each participant placed the report in the brown envelope so that he or she would not be able to look back when answering the recall questions. Fourth, participants independently answered the questions on the two scales without looking back at the report. Fifth, after completing the recall and preference questionnaires, participants opened the white envelope. They removed the second report and questionnaires contained therein and then placed their completed recall and preference questionnaires in the envelope. At this point they were instructed to read the second report and respond to the comparison questionnaire. Finally, after completing all other study activities each participant completed a demographic questionnaire.

Data Analyses

An a priori power analysis was calculated to determine the sample size necessary for the study using the computer program G*Power3 (Faul, Erdfelder, Lang, & Buchner, in press). These calculations were done using an alpha level of .025 and power was set at the conventional level of .80 suggested by Cohen. The median level of effect sizes (calculated using partial η^2) in all other studies examining effects on consumer comprehension and attitudes were determined to be $\eta^2 = .22$ and $\eta^2 = .13$, respectively (Bucknavage, 2005; Cornwall, 1990; Weddig, 1984; Wiener, 1985, 1987; Wiener & Kohler, 1986; Wiese et al., 1986). These values represent large effect sizes (Cohen, 1988;

Murphy & Myers, 2004); therefore, a large effect size was anticipated for the present study. Based on these values the estimated total sample size needed was 60 participants.

Two separate 2 x 2 x 2 (jargon x report length x parent/teacher role) analyses of variance (ANOVA) were used to examine differences in the mean recall and reported preference for the high- and low-jargon groups by (a) length of report, and (b) participants' role as a teacher or a parent. This method was chosen rather than one multivariate analysis because recall and preference were considered to be separate outcome dimensions.

In order to ensure that the assumptions of ANOVA were not being violated checks were undertaken. Random assignment of participants to both the high- or low-jargon and summary or full-length report conditions was applied to help balance cell sizes and avoid potential sampling bias. Independence of residuals was maintained as participants were told not to discuss or collaborate on responses to any measure, and any individual who might be a teacher in the district and also a parent was not be allowed to complete the study twice. Also, visual inspection of the data in a scatter plot was conducted to look for normal distribution of the data. Finally, homogeneity of variance was checked using Levene's Test of Equality of Error Variances (Heiman, 2000).

Additionally, supplemental analyses were conducted to examine effects of reader background variables. For the teacher samples, 3-way ANOVAs were used in two separate analyses to examine the effects of grade-level taught and estimated number of reports read. The dependent variables for these supplemental analyses were recall and preference scores, while the independent variables were level of jargon, report length,

and grade-level taught or estimated number of reports read, respectively. For parents, similar methodology was used to examine the effects of having experience reading psychoeducational reports and having a child who has received special education services. Direct comparison of reader preference for the summary versus full-length version of the reports was analyzed using responses to the Comparison Questionnaire. Frequencies of responses for each item are presented separated by level of jargon, report length read first, and teacher role. Due to the nominal nature of the data, differences between the groups in preference for the summary or full-length report were analyzed using chi-square tests.

Main analyses were conducted using an alpha equal to .025 in order to maintain an experiment-wise Type I error rate of .05. For the same reason, supplemental analyses were conducted using alpha equal to .013 and chi-square analyses used alpha equal to .006. Effect size was also calculated using partial η^2 for all significant results.

Results

Internal consistency reliability coefficients for total scores on the recall and preference measures were calculated using Cronbach's alpha. Reliability coefficients were .63 and .90 for the recall and preference measures respectfully. When examined separately, reliability of the recall measure was much higher for the low jargon group ($\alpha = .63$) than the high jargon group ($\alpha = .41$). This was also true for the parent group ($\alpha = .72$) compared to the teacher's ($\alpha = .56$). The differences were not seen for the preference measure. According to criteria described by Sattler (2001), reliability coefficients greater than .80 are generally desired for clinical and psychoeducational decisions, while

coefficients between .70 and .79 should be considered relatively reliable, and coefficients between .60 and .69 should be considered marginally reliable. Following this criteria, scores on these two measures used in this study were in an acceptable range. While the reliability coefficient for recall did not meet the .80 level recommended by Sattler, it meets the criteria to be considered marginally reliable. Overall, the correlation between the recall and preference measure was .35; however, when examined separately for the high- and low-jargon groups there were differences seen. The high-jargon group showed no correlation ($r = -.01$) between recall scores on the report and their preference rating, while the low jargon group is similar to the overall correlation ($r = .34$). Descriptive statistics regarding recall and preference scores by teacher/parent role, jargon level, and report length are presented in Table 3.

Inspection of skewness and kurtosis values revealed that no value was significantly different from zero, indicating that the data were within the acceptable limits for skewness and kurtosis and appropriately normally distributed. Levene's Test of Equality of Error Variances was not significant for the recall or preference scores indicating that equal error variance can be assumed for these two variables.

Table 3

Means and Standard Deviations for Recall and Preference Scores by Jargon Level, Parent/Teacher Role, and Report Length

	Summary Report			Full-Length Report		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Recall Scores						
High-Jargon						
Parent	14	10.93	3.10	12	10.08	2.15
Teacher	24	11.29	2.71	20	11.90	2.17
Low-Jargon						
Parent	11	15.73	1.56	12	14.67	3.68
Teacher	18	13.28	2.85	20	14.10	2.88
Preference Scores						
High-Jargon						
Parent	14	36.64	9.11	12	40.25	7.44
Teacher	24	41.00	10.19	20	42.90	11.61
Low-Jargon						
Parent	11	54.09	6.95	12	51.83	6.97
Teacher	18	49.67	10.59	20	47.25	9.53

Recall

A 2 x 2 x 2 ANOVA was used to determine the effects of the reader's role as a teacher or a parent, the level of report jargon, and the length of the report on recall of the information contained in the report. ANOVA results indicated a large main effect for jargon level on reader recall (See Table 4; partial $\eta^2 = .269$), but the reader's role as a teacher or a parent and report length did not have a significant effect on recall of the information in the report. A significant interaction effect was observed between a

reader's parent/teacher role and the level of jargon contained in the report read (partial $\eta^2 = .054$; see Figure 1). The parent/teacher role by jargon interaction was analyzed using simple main effect analysis as described by Becker (1999). Results showed the reader's role as a parent or a teacher influenced recall scores in the low-jargon situation ($M = 10.51$ and 11.60 , respectively), $F(1,127) = 4.22$, $p = .042$, partial $\eta^2 = .032$, but not when the report contained a high level of jargon ($M = 15.20$ and 13.69 for parents and teachers respectively), $F(1,127) = 2.38$, $p = .125$. Parents' ability to recall information from the report was more affected by jargon level than was teachers'.

Table 4

Three-Way Analyses of Variance for Effects of Parent/Teacher Role, Level of Jargon, and Report Length on Reader Recall

Source	Recall			Preference		
	SS	MS	$F(1,123)$	SS	MS	$F(1,123)$
Parent/Teacher Role	1.33	1.33	0.18	7.61	7.61	0.08
Jargon Level	349.84	349.84	47.66*	3359.84	3359.84	36.63*
Report Length	0.43	0.43	0.06	1.31	1.31	0.14
Role x Jargon	51.30	51.30	6.99*	487.38	487.38	5.31
Role x Length	21.15	21.15	2.88	6.62	6.62	0.72
Jargon x Length	0.04	0.04	0.00	196.99	196.99	2.15
Role x Jargon x Length	0.35	0.35	0.01	4.55	4.55	0.50
Error	902.86	7.34		11283.59	91.74	

Note. $N = 131$.

* $p < .025$.

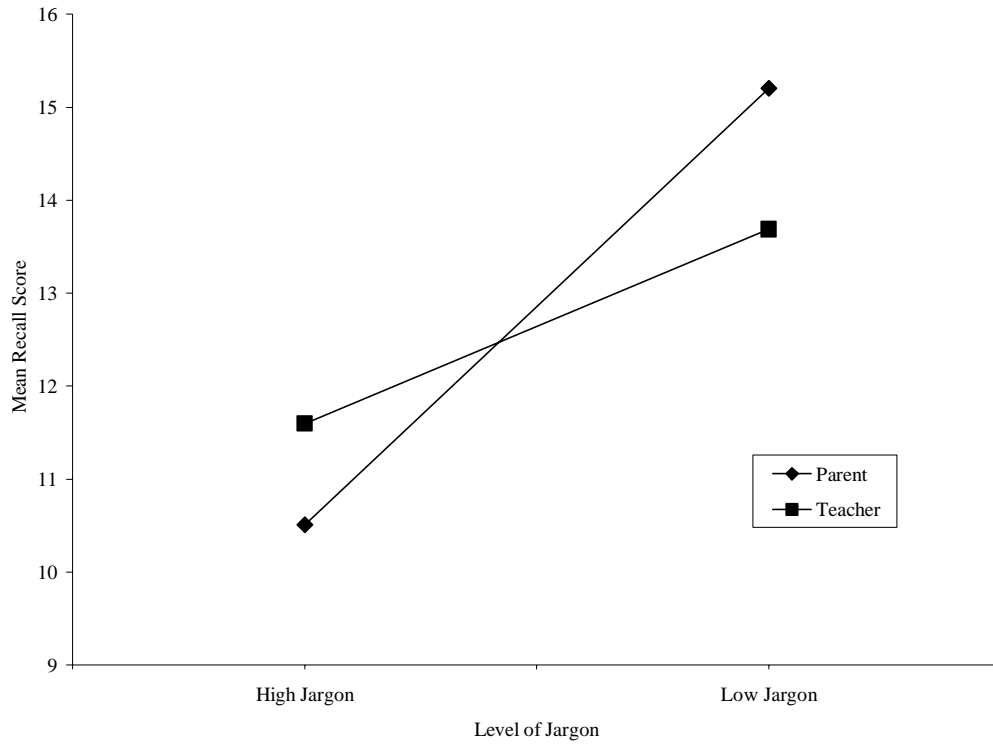


Figure 1. Mean recall scores as a function of the level of report jargon and reader role as a parent or teacher.

Individual item analysis of the recall questionnaire was conducted using crosstabulations to determine if there were specific types of information that the low-jargon group was more likely to provide a correct response compared to the high-jargon group. Each item was categorized based on the type of information queried into educational background, background, results, or recommendations. To determine if the frequency of correct and incorrect responses was different between the high- and low-jargon groups, a 2 x 2 chi-square statistic was calculated for each item. The response frequency and chi-square statistic for each item by group are presented in Tables 5. There does not appear to be any pattern to the types of information the low-jargon group was more accurate in responding to as about half of each type of information showed difference between the high- and low-jargon groups.

Preference

A 2 x 2 x 2 ANOVA was used to determine the effects of the reader's role as a teacher or a parent, the level of report jargon, and the length of the report on preference for the report. ANOVA results indicated a large main effect for jargon level on reader preference (See Table 4; partial $\eta^2 = .239$). Participants who read reports with a lower level of jargon rated the report more favorably than those who read the reports with a higher level of jargon. Reader role as a teacher or a parent and report length did not have a significant effect on reader preference for the report. There were no significant interaction effects between any of the three independent variables.

Table 5

Percentage of the High- and Low-Jargon Groups Responding with Correct and Incorrect Responses for Each Recall Item

Question Number and Category	High-Jargon ^a		Low-Jargon ^b		$\chi^2(1)$
	Correct	Incorrect	Correct	Incorrect	
1. Educational Background	54	46	82	18	11.33*
2. Recommendations	47	53	82	18	17.03*
3. Results	34	66	64	36	11.48*
4. Results	41	59	62	38	5.68*
5. Recommendations	79	21	84	16	0.54
6. Background	66	34	85	15	6.60*
7. Background	98	2	97	3	0.50
8. Results	56	44	74	26	4.62*
9. Results	53	47	46	54	0.63
10. Educational Background	77	23	85	15	1.39
11. Results	64	36	56	44	1.00
12. Results	84	16	79	21	0.68
13. Recommendations	50	50	84	16	16.32*
14. Educational Background	73	27	93	7	9.54*
15. Background	53	47	90	10	21.70*
16. Educational Background	29	71	43	57	2.83
17. Results	7	93	34	66	15.25*
18. Educational Background	39	61	41	59	0.08
19. Background	36	64	59	41	7.11*
20. Results	79	21	87	13	1.56

Note. ^a $n = 69$. ^b $n = 61$.

* $p < .05$.

Background Variables

Supplemental analyses were conducted to examine the effects of grade level currently taught and experience reading psychoeducational reports on teacher recall scores. To analyze the effects of grade level taught, two separate 2 x 2 x 2 ANOVAs were conducted using the grade level the teacher currently taught (either K-2 or 3-5), the level of jargon, and the length of the report read as independent variables (see Table 6). Total recall score and total preference score served as the dependent variables. A main effect was found for the level of jargon in the report on both recall and preference, but grade-level taught, report length, and the variable interactions were not significant (see Table 7). The effect of jargon on recall was moderate to large (partial $\eta^2 = .075$) and the effect on preference was large (partial $\eta^2 = .102$).

Table 6

Means and Standard Deviations for Teacher Recall and Preference by Grade-Level Taught, Level of Jargon, and Report Length

	Summary Report			Full-Length Report		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Recall Scores						
High-Jargon						
K-2	12	10.75	2.26	10	11.50	1.96
3-5	12	11.83	3.10	10	12.30	2.41
Low-Jargon						
K-2	8	11.12	5.72	11	14.00	2.49
3-5	11	13.64	2.16	9	14.22	3.46
Preference Scores						
High-Jargon						
K-2	12	36.00	8.99	10	45.10	12.98
3-5	12	46.00	9.04	10	40.70	10.25
Low-Jargon						
K-2	8	48.13	14.36	11	47.00	10.84
3-5	11	51.73	7.12	9	47.56	8.29

Table 7

Three-Way Analyses of Variance for Effects of Grade-Level Taught, Level of Jargon, and Report Length on Teacher Recall and Preference

Source	Recall			Preference		
	SS	MS	<i>F</i> (1,75)	SS	MS	<i>F</i> (1,75)
Grade Level Taught	27.17	27.17	2.99	121.36	121.36	1.15
Jargon Level	55.52	55.52	6.11*	902.35	902.35	8.54*
Report Length	27.89	27.89	3.07	2.86	2.86	0.03
Grade x Jargon	0.92	0.92	0.10	2.65	2.65	0.03
Grade x Length	8.43	8.43	0.93	387.96	387.96	3.67
Jargon x Length	6.42	6.42	0.71	105.47	105.47	1.00
Grade x Jargon x Length	5.13	5.13	0.56	164.29	164.29	1.56
Error	681.49	9.09		7922.28	105.63	

Note. $N = 82$.

* $p < .013$.

On the teacher demographics questionnaire, participants were asked to estimate the number of psychoeducational reports they had previously read (see Table 8). The responses (0-10, 10-20, or more than 20) were analyzed in a 3 x 2 x 2 ANOVA with jargon level and report length as the other independent variables. In this case, only a moderate to large main effect (partial $\eta^2 = .082$) for jargon on recall scores was significant (see Table 9).

Table 8

Descriptive Statistics for Teacher Recall and Preference by Report Reading Experience, Level of Jargon, and Report Length

	Summary Report			Full-Length Report		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Recall Scores						
High-Jargon						
0 – 10 ^a	8	12.63	2.38	6	11.67	2.50
10 – 20	4	8.75	1.89	3	11.00	3.61
20 +	12	11.25	2.67	10	12.50	1.58
Low-Jargon						
0 – 10	7	10.57	5.26	4	13.50	3.11
10 – 20	4	13.00	2.94	4	12.75	3.30
20 +	8	14.13	3.04	12	14.75	2.73
Preference Scores						
High-Jargon						
0 – 10	8	38.88	10.19	6	43.00	10.68
10 – 20	4	42.75	15.65	3	55.67	4.93
20 +	12	41.83	8.88	10	38.70	11.86
Low-Jargon						
0 – 10	7	48.86	13.85	7	47.25	7.14
10 – 20	4	57.25	.96	4	40.00	6.27
20 +	8	47.88	9.27	12	49.67	10.33

^a Respondents' self-reported number of reports previously read.

Table 9

Three-Way Analyses of Variance for Effects of Report Reading Experience, Level of Jargon, and Report Length on Teacher Recall and Preference

Source	Recall			Preference		
	SS	MS	<i>F</i>	SS	MS	<i>F</i>
Report Experience ^a	40.20	20.10	2.31	233.15	116.58	1.10
Jargon Level ^b	55.07	55.07	6.33*	418.81	418.81	3.95
Report Length ^b	15.82	15.82	1.81	4.62	4.62	0.04
Experience x Jargon ^a	32.52	16.26	1.87	228.28	114.14	1.08
Experience x Length ^a	0.01	0.01	0.00	28.35	14.17	0.13
Jargon x Length ^b	0.27	0.27	0.03	444.25	444.25	4.19
Experience x Jargon x Length ^a	28.20	14.10	1.62	836.71	418.35	3.95
Error	609.30	8.70		7413.96	105.91	

Note. $N = 82$.

^a $df = 2, 70$. ^b $df = 1, 70$.

* $p < .013$.

Planned analyses of parent background variables, including whether or not the reader had a child who had received special education services and whether or not the reader had experience reading psychoeducational reports, could not be conducted due to extremely unbalanced cell sizes.

Comparison Questionnaire

To determine whether parents and teachers experienced a preference for the full-length version or the summary version, they were asked to directly compare the two

versions of the report. The participants responded to nine items asking them to rate which version of the report the statement most accurately described. Chi-square analyses demonstrated that, overall, participants preferred the full-length format when asked which report was “most understandable,” $\chi^2 = 15.70, df = 1, p < .001$ and which report “provided the information I needed about the student,” $\chi^2 = 15.70, df = 1, p < .001$. Chi-square analyses of the other 7 items indicated that the frequency of responses did not differ from the expected cell frequencies.

To determine if the frequency of responses was different between the various independent variables, a 2 x 2 chi-square statistic was calculated for each item based on level of jargon, length of report, and parent/teacher role. The response frequency and chi-square statistic for each item by group are presented in Tables 10, 11, and 12. Results of these analyses showed that participant preference for the summary versus the full-length format was independent of whether they read the high- or low-jargon version and whether they were a teacher or a parent. Preference on direct comparison items, however, was related to the length of the report the participant first read. It seems that for most items, participants preferred the report length that they read second.

Table 10

Percentage of the High- and Low-Jargon Groups Endorsing the Short or Full-Length Report for Each Comparison Item

Item	High-Jargon ^a		Low-Jargon ^b		$\chi^2(1)$
	Short	Long	Short	Long	
Easiest to read.	54	46	64	36	1.42
Most understandable.	50	50	57	43	0.85
Provided the best understanding of the student.	32	68	33	67	0.00
I would like to read similar reports.	48	52	52	48	0.19
Most confusing.	51	49	54	46	0.16
Provided the information I needed about the student.	35	65	44	56	1.08
Gave the clearest picture of the child's current academic skills.	34	66	31	69	0.11
Most believable.	34	66	46	54	1.84
The report I most preferred.	49	51	49	51	0.01

Note. Short = preferred the summary version; Long = preferred the full-length version.

^a $n = 69$. ^b $n = 61$.

* $p < .006$.

Table 11

Percentage of the Parent and Teacher Groups Endorsing the Short or Full-Length Report for Each Comparison Item

Question	Teacher ^a		Parent ^b		$\chi^2(1)$
	Short	Long	Short	Long	
Easiest to read.	58	42	59	41	0.02
Most understandable	53	47	53	47	0.00
Provided the best understanding of the student.	34	66	31	69	0.14
I would like to read similar reports	47	53	53	47	0.38
Most confusing	52	48	53	47	0.02
Provided the information I needed about the student.	40	60	39	61	0.02
Gave the clearest picture of the child's current academic skills.	35	65	29	71	0.57
Most believable.	37	63	43	57	0.38
The report I most preferred.	49	51	49	51	0.00

Note. Short = preferred the summary version; Long = preferred the full-length version.

^a $n = 81$. ^b $n = 49$.

* $p < .006$.

Table 12

Percentage of the Short Report First and Long Report First Groups Endorsing the Short or Full-Length Report for Each Comparison Item

Question	Short First ^a		Long First ^b		$\chi^2(1)$
	Short	Long	Short	Long	
Easiest to read.	40	60	78	22	18.78*
Most understandable	36	64	71	29	16.53*
Provided the best understanding of the student.	18	82	47	52	12.72
I would like to read similar reports	30	70	70	30	20.48*
Most confusing	33	67	74	26	21.45*
Provided the information I needed about the student.	24	76	56	44	13.22*
Gave the clearest picture of the child's current academic skills.	20	80	46	54	10.18*
Most believable.	24	76	56	44	13.21*
The report I most preferred.	30	70	68	32	18.58*

Note. Short = preferred the summary version; Long = preferred the full-length version.

^a $n = 67$. ^b $n = 63$.

* $p < .006$.

Summary

Overall, the results show that parents and teachers who read a report with a low level of jargon recalled more information and expressed a greater preference for the report read. The effect on recall is qualified by an interaction with the reader's role as a teacher or a parent; the effect of increased recall scores when reading the low-jargon

report was greater for parents than it was for teachers. No teacher or parent background variable assessed significantly affected reader recall or preference. Interestingly, while no group differences in recall or preference emerged based on the initial preference questionnaires, expressed differences emerged when asked to directly compare the various length reports. Overall, a consistent preference for the full-length version versus the summary version was not evident; instead, readers expressed a preference for the length of report they had read as the second report.

Discussion

The current study investigated the effects of jargon and report length on reader understanding of school psychologists' psychoeducational reports. Recall and preference were examined using both high-jargon and low-jargon versions, as well as full-length and summary versions, of the same psychoeducational report to determine whether differences exist in reader recall of and preference for psychoeducational reports based on whether the reader was a teacher or a parent. Additionally, the study investigated whether replacing psychological and educational jargon in psychoeducational reports with common language descriptions increased consumer recall of and preference for the report. Furthermore, consumer recall and preference were assessed based on whether they read a summary or full-length version of the same report.

Common expert opinion asserts that removing jargon will improve reader comprehension, so this study hypothesized that recall and preference for reports with low levels of jargon would be higher than recall and preference for reports with a higher level of jargon. Due to the advanced level of training required of teachers and increased familiarity with the education system, teachers were expected to have higher recall and preference for the psychoeducational reports than parents who have little training in the field of education. Given the more comprehensive nature of the full-length report, it was predicted that reader recall and preference would be higher when they responded based on a full-length report rather than a summary version of the same report. Results were mixed. Specifically, large effects for jargon were found on both recall and preference scores. Additionally, a large interaction effect between jargon and parent/teacher role on

reader recall was present. The research hypotheses that participants' recall would differ based on report length and whether the reader was trained in the field of education were not supported. Additionally, the hypothesis that preference for the report would differ based on reader role as a teacher or parent was not supported. Results for the hypothesis that preference would differ based on length were less clear. Direct comparison of the two length reports indicated that the full-length version was preferred in a few specific cases, but these results were not supported by scores on the preference questionnaire. This likely reflects a preference for reading the report a second time, rather than an actual preference for the length of report.

Level of Training

Teachers were expected to have higher recall and preference scores regardless of the level of jargon in the report and the length of report. This hypothesis was partially supported by the results of the current study. No main effects were found for the reader's role as a teacher or parent, which was contrary to previous research showing that school personnel found psychological reports to be more understandable than did parents (Cornwall, 1990), that readers with more education showed higher comprehension (Weddig, 1984; Wiener & Kohler, 1986), and that readers with more knowledge on the subject had more positive ratings of school psychologists and their reports (Lucas & Jones, 1970). However, the results do support results of a pilot study that indicated no difference in recall or preference scores based on a reader being trained in the field of education (Bucknavage, 2005). While the sample in the latter study was limited by the fact that those trained in education were student teachers and had little experience in the

field of education, the teachers in the current study had much more experience and there was still no difference evident in their recall or preference over that of the readers who had little or no training in the field of education. However, it does seem that, based on the interaction effect demonstrated between parent/teacher role and jargon level, parents may be differentially affected by the level of jargon contained in the report and have more difficulty understanding psychoeducational reports when they contain a high level of jargon.

Report Length

The length of the report (i.e., full-length or summary) was expected to impact reader recall and preference for the report. This expectation was based on limited research on reducing jargon which indicated that longer versions of psychoeducational reports led to high comprehension scores (Weddig, 1984; Wiener, 1985, 1987; Wiener & Kohler, 1986). Results of recall scores do not indicate that the longer reports influenced an increase in scores on the recall measure. These findings support the notion that differences previously found for longer reports were likely due to confounding variables such as level of jargon and/or format. Additionally, after participants read the first report, results of the preference questionnaire do not indicate any difference in reader preference ratings based on whether the report was the full-length or summary version.

These results found for report length are less clear, however, when readers are asked to directly compare the full-length and summary versions of the report. In this case, jargon level and whether the reader was a teacher or a parent were not related to preference for the summary or full-length version. Rather, differences based on whether

the participant read the summary or the full-length version first; readers tended to prefer the report version that they had read second. Given that there was no indication of group difference on the initial preference questionnaire, it is likely that this difference in ratings reflects readers' preferences to have a second reading of the report after being clued into important information (by the recall questionnaire) rather than an actual preference for the length of report.

These results are supported by research in cognitive psychology on reading comprehension, learning, and memory. Many of the questions included in the preference and direct comparison questionnaires referred or related to a reader's perceived comprehension of the material read. Researchers generally agree on the importance of prior knowledge in reading comprehension (Wilson & Anderson, 1986) and learning in general (Dochy, De Rijdt, & Dyck, 2002). Research has also shown that those with prior knowledge on a subject will recall more of what they have heard or read (Cheisi, Spilich, & Voss, 1979). By giving readers an initial reading of the report, they were effectively provided with "prior knowledge" of the student, which would lead to improved comprehension and recall on the second reading of the report.

Additionally, research in cognitive psychology has identified an effect known as the priming effect in which "advance knowledge about or experience to a stimulus can increase the ease of its subsequent recall or recognition" (Gleitman, Fridlund, & Reisberg, 1999, p. C-21). This effect has been demonstrated even in case of implicit memory when participants are not consciously aware of their exposure to or knowledge of the stimulus (e.g., Tulving, Schacter, & Stark, 1982). The recall questions, which were

completed prior to reading the second report, would have acted as the stimulus to activate this priming effect, thus improving reader memory for the information contained in the second report.

Level of Jargon

Due to the common expert advice to reduce or eliminate jargon in psychoeducational reports, as well as results of the few other studies in this area, the current study hypothesized that consumers who read a report with a high level of jargon would score lower on a measure of recall and rate their preference for the report lower than readers who read the same report with a low level of jargon. Results of ANOVA confirmed these hypotheses. Parents and teachers who read the high-jargon report had lower recall and preference scores than those who read the low-jargon version of the report, and effect sizes for these relationships were both large. A small to moderate effect size for the interaction between the level of jargon and whether the reader was a teacher or a parent was also present. Follow-up analyses of this interaction indicates that parents and teachers are differentially affected by the level of jargon, with the high- and low-jargon effects being enhanced for parents, but not for teachers.

Analysis of individual recall item content did not indicate a consistent pattern to the types of information the low-jargon group was more accurate in recalling. There were a number of questions where the high- and low-jargon groups performed equally well or equally poor, but again there did not appear to be a consistent pattern to the types of information being presented. Within the context of the current study, it cannot be determined what this equal level of performance should be attributed to. It may be that

the information should not have been considered jargon in the case of equally strong performance, or the terms were not provided with clear common language descriptions in the case of equally poor performance. However, many other factors such as the salience of the information in the report and the specific prior knowledge of the parents and teachers could have had an affect on these responses.

Limitations of the Current Study

One limitation of this study is the high- and low-jargon reports were created based on what a small number of school psychologists-in-training thought others outside of the field would find to be unfamiliar or unknown language. Whether or not the words and phrases removed from the low-jargon report would actually be considered jargon by those outside the fields of psychology and education has not been assessed. A validity check incorporated into the study indicates that readers did perceive a difference in the level of unfamiliar and unknown words and phrases contained in the report, but they were not likely to rate this as a high level of jargon. It may be that while the reports do represent different levels of jargon, these reports do not actually represent the extreme contrast in jargon that they were intended to represent.

The current study is also somewhat limited in terms of generalizability. While the overall sample did reflect diversity to some extent, the parent sample especially did not match the level of diversity present in the local community or country as a whole, nor did it proportionally represent parents from all educational backgrounds. Overwhelmingly, the parents who participated in the study were Caucasian and had obtained at least some college experience. While some parent meeting attendees chose not to participate due to

lack of fluency with the English language, most parents in attendance at the meeting chose to participate in the study. It may be that parents who get involved in parents groups and attend school meeting are different from those who do not. Therefore, the ability to generalize the results of this study to parents in general is limited.

The method of measurement used is an additional limitation. The study measured reader recall and ratings of preference (including their perceived comprehension of the information) rather than actual comprehension of the information contained in the report. The information a person thinks they understand may be different from what they actually do understand. A reader may be able to remember the information read without actually comprehending and understanding what the information means or how it will affect the child's learning.

Furthermore, the current study examined recall and preference based on changes made to only one psychoeducational report. While this report is based on the traditional format described by Sattler, not all school psychologists use this format and those that do will vary widely in the amount of information and detail provided within that format. Additionally, while the referral problem described in the reports used in this study is one of the most typical referrals requiring psychoeducational testing, the referral problems discussed in actual psychoeducational reports will differ for every child. This difference may affect reader comprehension and the types of language that should be considered jargon. As mentioned previously, prior knowledge will affect reader comprehension (Wilson & Anderson, 1986) and, therefore, the amount of prior knowledge a reader has on a specific referral problem will likely affect their comprehension of the report at hand.

Finally, due to the nature of the research questions, the methods employed in this study do not have a high level of ecological validity. Typically parents and teachers would be provided with a copy of the psychoeducational report to read before meeting with the team to discuss and explain the findings. They would be able to read and re-read the report as many times as necessary, and could refer back to it during or after discussing the information contained. Additionally, while readers were instructed to read the report as if it were their child in the case of parents or a child in their class in the case of the teachers, the readers would likely be more interested and attentive to reading the report and understanding the information contained if it was actually their child or a child they were teaching. In fact, spontaneous comments offered by some participants after participation indicated they felt they had not read the report as closely as they should have or that they would have read it more closely in a real-life situation.

Future Research

Future research in the area should include more diverse samples of participants so as to better represent the consumers of psychoeducational reports, thereby improving the generalizability of the results. Samples including a larger number of males, parents from all educational levels, more nationally representative ethnic backgrounds, and greater geographic diversity should be employed.

Given that current findings offer empirical evidence of the effects of removing of jargon from psychoeducational reports and that this effect is greater for parents reading the reports, the specific language that parents considered to be jargon should be examined. Determining which specific words or phrases are unfamiliar or less known to

the consumers of psychoeducational reports will be important as it may not be necessary to remove technical language to the degree applied in the current study, or, conversely, the “low-jargon” reports may have still contained language that was unfamiliar to the readers. Indeed analysis of specific recall items from this study did indicate there may have been questions related to information falling into both these categories. If these terms are removed, it may lead to even greater understanding of the reported information. Additionally, while the report employed in this study reflects some of the most common information contained in psychoeducational reports, it by no means represents all the information that may need to be conveyed in a psychoeducational report. Therefore, the broader array of psychoeducational information that may need to be expressed should be examined for terms and phrases that readers consider to be jargon. School psychologists can then ensure that such terms are sufficiently explained to readers.

Future research should seek to improve the ecological validity of these findings. This could be accomplished by investigating methods for improving communication with teachers and parents of students actually referred for evaluation. Certainly, readers may be more invested in the process of improved communication and understanding if it involved their own child or student. Additionally, studies should incorporate the explanation and discussion that would typically occur surrounding a referral for special education and the reports of the school psychologist and other school personnel. Finally, future research should extend to other methods for improving understanding and comprehension of psychoeducational reports beyond the language used to write the reports.

Implications for Practice

Given the evident effects that psychoeducational reports' language usage can have on readers -- what they remember from the report and how acceptable they find the report -- school psychologists should use this information to help guide their report writing and interactions with teachers and parents. Additionally, while readers did not consistently prefer a longer versus a shorter psychoeducational report, they did indicate that the longer report provided a more complete, useful picture of the child. School psychologists should be careful to ensure that reports are comprehensive enough to provide readers with a full, clear understanding of the child being described. Given that parents are intended to be integral members of the team and they benefited even more than teachers when jargon was reduced, it is essential that school psychologists strive to write reports with a low level of jargon. If a reader does not find that what they are reading is clear and acceptable, they may not take it as a credible source of information, which could potentially impede the process of a child receiving necessary services (Lovitt, Plavins, & Cushing, 1999). Consequently, school psychologists should work closely with teachers and parents to ensure understanding of all information included in psychoeducational reports, especially until research can more specifically determine what information is most likely lead to confusion and misunderstanding.

Writing in what a psychologist considers to be low-jargon language may not be sufficient given that psychologists' perceptions of jargon likely differ from non-psychologists' perceptions. Therefore, it should be the responsibility of those psychologists writing psychoeducational reports to ensure readers are comfortable

enough to ask for clarification of information contained in the reports, possibly by meeting separately with the parents or teachers (i.e., without the full team) in a low-pressure environment. The full team meeting can be intimidating, especially to some parents who are not familiar with the special education process. These individuals may feel they are the only ones who do not understand something, when actually, given the finding that there was no difference in recall, acceptability, or perceived comprehension based on training in the field of education, teachers and parents may both need clarification of the same information. Acting in the ways mentioned above can only serve to improve communication and strengthen relationships between parents and the school personnel. Given the large number of children who will be involved in the special education eligibility and instructional process and the importance for parents to act as active members of the team making special education decisions, school psychologists must ensure they continually re-assess their report writing and communication skills as these are important links for parents, teachers, and the special education process.

Conclusion

As previously noted, current education law requires the integral involvement of students' parents into the special education process. Many experts in the field of psychology offer advice meant to improve school psychologist's communication with parents and school personnel through improved psychoeducational reports. Unfortunately research supporting these suggestions is sparse. This study provides empirical evidence to support the commonly made suggestion to reduce or eliminate jargon in psychoeducational reports. Specifically, parent and teacher recall and preference were

improved by reading a report with a lower level of jargon and technical language.

Additionally, parents and teachers expressed a preference for reports when they had read them a second time. School psychologists should continuously seek to improve communication with parents and teachers and consider these findings when writing psychoeducational reports.

References

- Affleck, D. C., & Strider, F. D. (1971). Contribution of psychological reports to patient management. *Journal of Consulting and Clinical Psychology, 37*, 177-179.
- Assistance to States for the Education of Children with Disabilities and Preschool Grants for Children with Disabilities, Final Rule, 71 Fed. Reg. 46450-46845 (August 14, 2006) (to be codified at 34 C.F.R. pt.300 & 301).
- Auger, T. J. (1974). Mental health terminology: A modern tower of Babel? *Journal of Community Psychology, 2*, 113-116.
- Becker, L. A. (1999). *Analysis of simple main effects*. Retrieved March 26, 2007 from http://web.uccs.edu/lbecker/spss80/glm_sme_80.htm
- Bradley-Johnson, S., & Johnson, C. M. (2006). *A handbook for writing effective psychoeducational reports*. Austin, TX: Pro-Ed.
- Brandt, H. M., & Giebink, J. W. (1968). Concreteness and congruence in psychologists' reports to teachers. *Psychology in the Schools, 5*, 86-89.
- Bucknavage, L. B. (2005). *Language in psychoeducational reports: Impact on education students' recall, preference, and comprehension*. Unpublished master's thesis, Pennsylvania State University, University Park.
- Cheisi, H. L., Spilich, G. J., & Voss, J. F. (1979). Acquisition of domain-related information in relation to high and low domain knowledge. *Journal of Verbal Learning and Verbal Behavior, 18*, 257-274.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

- Cornwall, A. (1990). Social validation of psychoeducational assessment reports. *Journal of Learning Disabilities, 23*, 413-416.
- Cuadra, C. A., & Albaugh, W. P. (1956). Sources of ambiguity in psychological reports. *Journal of Clinical Psychology, 12*, 109-115.
- Curtis, M. J., Hunley, S. A., Walker, K. J., & Baker, A. C. (1999). Demographic characteristics and professional practices in school psychology. *School Psychology Review, 28*, 104-116.
- Dailey, C. A. (1953). The practical utility of the clinical report. *Journal of Consulting Psychology, 17*, 297-302.
- Dochy, F., de Rijdt, C., & Dyck, W. (2002). Cognitive prerequisites and learning: How far have we progressed since Bloom? Implications for educational practice and teaching. *Active Learning in Higher Education, 3*, 265-284.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (in press). G*Power3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*.
- Flesch, R. (1974). *The art of readable writing*. New York: Harper & Row.
- Fogel, L. S., & Nelson, R. O. (1983). The effects of special education labels on teachers' behavioral observations, checklist scores, and grading of academic work. *Journal of School Psychology, 21*, 241-251.
- Fry, E. (1977). Fry's readability graph: Clarification, validity, and extension to level 17. *Journal of Reading, 21*, 242-252.

- Garfield, S. L., Heine, R. W., & Leventhal, M. (1954). An evaluation of psychological reports in a clinical setting. *Journal of Consulting Psychology, 18*, 281-286.
- Gleitman, H., Fridlund, A. J., & Reisberg, D. (1999). *Psychology* (5th ed). New York: W. W. Norton
- Grayson, H. M., & Tolman, R. S. (1950). A semantic study of concepts of clinical psychologists and psychiatrists. *Journal of Abnormal Social Psychology, 45*, 216-231.
- Grove, D. M. (1985). Understandability by teachers, school psychologists, and parents of child clients of psychological terminology, used in written psychological reports (Doctoral dissertation, Southern Illinois University at Carbondale, 1984). *Dissertation Abstracts International, 46*, 654.
- Harvey, V. S. (1997). Improving readability of psychological reports. *Professional Psychology: Research and Practice, 28*, 271-274.
- Harvey, V. S. (2006). Variables affecting the clarity of psychological reports. *Journal of Clinical Psychology, 62*, 5-18.
- Heiman, G. W. (2000) *Basic statistics for the behavioral sciences* (3rd ed.). Boston: Houghton Mifflin.
- Hyatt, S. P., & Tingstrom, D. H. (1993). Consultant's use of jargon during intervention presentation: An evaluation of presentation modality and type of intervention. *School Psychology Quarterly, 8*, 99-109.

- Hyatt, S. P., Tingstrom, D. H., & Edwards, R. (1991). Jargon usage in intervention presentation during consultation: Demonstration of a facilitative effect. *Journal of Educational and Psychological Consultation, 2*, 49-58.
- Kazdin, A. E., & Cole, P. M. (1981). Attitudes and labeling biases toward behavior modification: The effects of labels, content, and jargon. *Behavior Therapy, 12*, 56-68.
- Lacks, P. B., Horton, M. M., & Owen, J. D. (1969). A more meaningful and practical approach to psychological reports. *Journal of Clinical Psychology, 25*, 383-386.
- Lichtenberger, E. O., Mather, N., Kaufman, N. L., & Kaufman, A. S. (2004). *Essentials of assessment report writing*. Hoboken, NJ: Wiley & Sons.
- Littlejohn, W. R. (1977). Judgments of three psychological report formats by school psychologists, teachers, principals, and school psychologist educators (Doctoral dissertation, Indiana University, 1976). *Dissertation Abstracts International, 37*, 4992.
- Lovitt, T. C., Plavins, M., & Cushing, S. (1999). What do pupils with disabilities have to say about their experience in high school? *Remedial and Special Education, 20*, 67-76.
- Lucas, M. S., & Jones, R. L. (1970). Attitudes of teachers of mentally retarded children toward psychological reports and services. *Journal of School Psychology, 8*, 122-130.

- Mason, E. J. (1973). Teachers' observations and expectations of boys and girls as influenced by biased psychological reports and knowledge of the effects of bias. *Journal of Educational Psychology, 65*, 238-243.
- Mason, E. J., & Larimore, D. L. (1974). Effect of biased psychological reports on two types of teachers' ratings. *Journal of School Psychology, 12*, 46-50.
- Mertens, D. M. (1976). Expectations of teachers-in-training: The influence of a student's sex and a behavioral versus a descriptive approach in a biased psychology report. *Journal of School Psychology, 14*, 222-229.
- Miller, J. (2005). *The use of graphs to communicate psychoeducational test results to parents*. Unpublished doctoral dissertation, Pennsylvania State University, University Park.
- Mintz, J. (1968). Survey of student therapists attitudes toward psychodiagnostic reports. *Journal of Consulting and Clinical Psychology, 32*, 500.
- Murphy, K. R., & Myors, B. (2004). *Statistical power analysis: A simple and general model for traditional and modern hypothesis tests* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Mussman, M. C. (1964). Teachers' evaluations of psychological reports. *Journal of School Psychology, 3*, 35-37.
- National Association of School Psychologists (2000). *Professional conduct manual*. Retrieved August 20, 2006 from www.nasponline.org.

- National Center for Education Statistics. (2004). *Schools and staffing survey: Teacher 1999-2000 public school – survey questions*. Retrieved January 15, 2005 from <http://nces.ed.gov/surveys/SASS/questionnaire.asp>
- National Center for Education Statistics. (2005). *Digest of education statistics: Tables and figures - 2005*. Retrieved August 30, 2006 from <http://nces.ed.gov/programs/digest/d05/ltl.asp#0>.
- Ownby, R. L. (1990). A study of the expository process model in school psychological reports. *Psychology in the Schools, 27*, 353-358.
- Ownby, R. L., (1997). *Psychological reports: A guide to report writing in professional psychology* (3rd ed.). New York: Wiley.
- Ownby, R. L., Wallbrown, F. H., & Brown D. Y. (1982). Special education teachers' perception of reports written by school psychologists. *Perceptual and Motor Skills, 55*, 955-961.
- Pope, L., & Haklay, A. (1974). A follow-up study of psychoeducational evaluations sent to schools. *Journal of Learning Disabilities, 7*, 56-61.
- Pryzwansky, W. B., & Hanania, J. S. (1986). Applying problem-solving approaches to school psychological reports. *Journal of School Psychology, 24*, 133-141.
- Raforth, M. A., & Richmond, B. O. (1983). Useful terms in psychoeducational reports: A survey of students, teachers, and psychologists. *Psychology in the Schools, 20*, 346-350.
- Reber, A. S., & Reber, E. S. (2001). *Dictionary of psychology* (3rd ed.). New York: Penguin.

- Rucker, C. N. (1967a). Report writing in school psychology: A critical investigation. *Journal of School Psychology, 5*, 101-108.
- Rucker, C. N. (1967b). Technical language in the school psychologist's report. *Psychology in the Schools, 4*, 146-150.
- Salvagno, M., & Teglassi, H. (1987). Teacher perceptions of different types of information in psychological reports. *Journal of School Psychology, 25*, 415-424.
- Sattler, J. M. (2001). *Assessment of children: Cognitive applications* (4th ed.). La Mesa, CA: Jerome M. Sattler Publisher.
- Schwartz, E. B. (1977). Teacher perceptions of children as a consequence of differing content in psychological reports (Doctoral dissertation, University of Pennsylvania, 1977). *Dissertation Abstracts International, 38*, 1310.
- Schwartz, N. H., & Wilkinson, W. K. (1987). Perceptual influences of psychoeducational reports. *Psychology in the Schools, 24*, 127-135.
- Shively, J. J., & Smith, A. E. (1969). Understanding the psychological report. *Psychology in the Schools, 6*, 272-273.
- Siskind, G. (1967). Fifteen year later: A replication of "a semantic study of concepts of clinical psychologists and psychiatrists." *The Journal of Psychology, 65*, 3-7.
- Skrtic, T. M. (1991). The special education paradox: Equity as the way to excellence. *Harvard Educational Review, 61*, 148-206.
- Smail, R. C. (1990). An exploratory study of selected features of school psychological reports as viewed by teachers of severely and profoundly handicapped students

- (Doctoral dissertation, Ohio State University, 1990). *Dissertation Abstracts International*, 51, 1523.
- Tallent, N. (1956). An approach to the improvement of clinical psychological reports. *Journal of Clinical Psychology*, 12, 103-109.
- Tallent, N., & Reiss, W. J. (1959). Multidisciplinary views on the preparation of written clinical psychological reports: I. Spontaneous suggestions for content. *Journal of Clinical Psychology*, 15, 444-446.
- Tidwell, R., & Wetter, J. (1978). Parental evaluations of psychoeducational reports: A case study. *Psychology in the Schools*, 15, 209-215.
- Tulving, E., Schacter, D. & Stark, H. (1982). Priming effects in word fragment completion are independent of recognition effects. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 8, 336-342.
- U. S. Census Bureau (2006). *Educational attainment of the population 15 years and over, by age, sex, race and Hispanic origin: 2005*. Retrieved November 28, 2006 from <http://www.census.gov/population/www/socdemo/education/cps2005.html>
- Weddig, R. R. (1984). Parental interpretation of psychoeducational reports. *Psychology in the Schools*, 21, 477-481.
- Wiener, J. (1985). Teachers' comprehension of psychological reports. *Psychology in the Schools*, 22, 60-64.
- Wiener, J. (1987). Factors affecting educators' comprehension of psychological reports. *Psychology in the Schools*, 24, 116-126.

- Wiener, J., & Kohler, S. (1986). Parents' comprehension of psychological reports. *Psychology in the Schools, 23*, 265-270.
- Wiese, M. J., Bush, B. R., Newman, P. M., Benes, K. M., & Witt, J. C. (1986). A rose by any other name: The influence of jargon on teacher perceptions of psychology reports. *Journal of Psychoeducational Assessment, 4*, 291-298.
- Wilson, P. T., & Anderson, R. C. (1986). What they don't know will hurt them: The role of prior knowledge in comprehension. In J. Orasanu (Ed.), *Reading comprehension: From research to practice*. Hillsdale, NJ: Lawrence Erlbaum.
- Witt, J. C., Moe, G., Gutkin, T. B., & Andrews, S. L. (1984). The effect of saying the same thing in different ways: The problem of language and jargon in school-based consultation. *Journal of School Psychology, 22*, 361-367.
- Woolfolk, A. E., Woolfolk, R. L., & Wilson, G. T. (1977). A rose by any other name...: Labeling bias and attitudes toward behavior modification. *Journal of Consulting and Clinical Psychology, 45*, 184-191.

Appendix A
Recall Questionnaire

Please indicate your answer for each question by circling the letter beside your answer choice.

1. Kevin often refused to go to school
 - a. never.
 - b. only in kindergarten.
 - c. only in second grade.
 - d. in kindergarten and first grade.

2. According to the recommendations, to improve Kevin's sight word recognition, flashcards should be made using
 - a. only words Kevin knows.
 - b. grade-appropriate words.
 - c. only words Kevin does not know.
 - d. a mix of words Kevin does and does not know.

3. Kevin's ability to do simple math calculations was
 - a. well below average.
 - b. below average.
 - c. average.
 - d. above average.

4. Kevin's reading comprehension ability was
 - a. well below average.
 - b. below average.
 - c. average.
 - d. above average.

5. According to the recommendations, on a daily basis Kevin should read with an adult and
 - a. have no interruptions while they read the book.
 - b. be allowed to ask questions after they read the book.
 - c. tell the story back to the adult after they read the book.
 - d. talk together about the story and pictures as they read the book.

6. Kevin learned to walk
 - a. early
 - b. on time
 - c. late
 - d. not reported

7. Kevin can perform normally
 - a. only major muscle group activities such as running.
 - b. only small muscle group activities such as writing.
 - c. neither major nor small muscle group activities such as running and writing.
 - d. both major and small muscle group activities such as running and writing.

8. Kevin's ability to write using correct grammar, word meanings, and sentence structure was
 - a. well below average.
 - b. below average.
 - c. average.
 - d. above average.
9. Kevin's achievement in math, writing and reading comprehension is
 - a. similar to scores expected based on his IQ score.
 - b. lower than expected based on his IQ score.
 - c. higher than expected based on his IQ score.
 - d. not reported.
10. Observation of Kevin by the school psychologist in the language arts classroom focused on
 - a. hand raising.
 - b. talking out.
 - c. attention.
 - d. writing.
11. Kevin's word reading ability was
 - a. well below average.
 - b. below average.
 - c. average.
 - d. above average.
12. The results of the school psychologist's testing were considered to be
 - a. very different from his usual performance.
 - b. somewhat different from usual performance.
 - c. representative of his usual performance.
 - d. unrepresentative of his usual performance.
13. According to the recommendations, Kevin's reading group should be
 - a. at a level slightly lower than where he currently reads independently.
 - b. at a level slightly higher than where he currently reads independently.
 - c. at a level much lower than where he currently reads independently.
 - d. at a level much higher than where he currently reads independently.
14. According to his teacher, Kevin struggles to
 - a. understand what he reads.
 - b. sound out words when reading.
 - c. calculate math problems.
 - d. write understandable sentences.
15. How old is Kevin?
 - a. 7 years
 - b. 9 years
 - c. 8 years

- d. not reported
16. Before being referred to the school psychologist Kevin
- a. received extra help in word reading.
 - b. received only the regular classroom instruction.
 - c. received extra help in general academic skills.
 - d. received extra help in general reading strategies.
17. Kevin's general intellectual functioning was
- a. well below average.
 - b. below average.
 - c. average.
 - d. above average.
18. Kevin was referred to the school psychologist by
- a. his mother.
 - b. his teacher.
 - c. his mother and his teacher.
 - d. his teacher and a group of school personnel.
19. Kevin learned to talk
- a. early.
 - b. on time.
 - c. late.
 - d. not reported.
20. Kevin's score in _____ is lower than his expected performance.
- a. reading comprehension
 - b. writing
 - c. spelling
 - d. word reading

Appendix B
Preference Questionnaire

Please respond to each item by circling the number on the scale beside each question.

	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree
1. This report was easy to read.	1	2	3	4	5
2. I understood the information presented.	1	2	3	4	5
3. I have a good understanding of the child discussed.	1	2	3	4	5
4. Reading this report was difficult for me.	1	2	3	4	5
5. The report provided useful information about the child's educational needs.	1	2	3	4	5
6. I would like to read similar reports.	1	2	3	4	5
7. The writer's style is too confusing for me to understand.	1	2	3	4	5
8. I would like to make many changes to the way this report is written.	1	2	3	4	5
9. I have a clear picture of the child's current academic skills.	1	2	3	4	5
10. Reading this report was a stressful experience for me.	1	2	3	4	5
11. The report was well organized and coherent.	1	2	3	4	5
12. Overall, I am satisfied with this report.	1	2	3	4	5

Appendix C Comparison Questionnaire

Please respond to the following questions by indicating which report each item most accurately describes. Choose only one for each item.

- | | | |
|--|----------------------------|----------------------------|
| 1. Easiest to read. | ___ 1 st report | ___ 2 nd report |
| 2. Most understandable. | ___ 1 st report | ___ 2 nd report |
| 3. Provided the best understanding of student. | ___ 1 st report | ___ 2 nd report |
| 4. I would like to read similar reports. | ___ 1 st report | ___ 2 nd report |
| 5. Most confusing. | ___ 1 st report | ___ 2 nd report |
| 6. Provided the information I needed about the student. | ___ 1 st report | ___ 2 nd report |
| 7. Gave the clearest picture of the child's current academic skills. | ___ 1 st report | ___ 2 nd report |
| 8. Most believable. | ___ 1 st report | ___ 2 nd report |
| 9. The report I most preferred. | ___ 1 st report | ___ 2 nd report |

Please indicate your answer to question 10 by marking an X on the appropriate line below.

10. Which response most accurately describes the level of words or phrases contained the reports that were unfamiliar or had meanings that were unclear to you.
- ___ Very few. I knew the meanings of almost every word.
- ___ Some. I knew what most of the report meant, but there was some information I was unsure about.
- ___ A lot. There were quite a few unfamiliar words and phrases.

Appendix D
Examples of Low- and High-Jargon Statements Used in the Psychoeducational Reports

Low-Jargon	High-Jargon
...especially his difficulty “sounding out” words. They are also concerned that Kevin has not shown improvement after receiving extra help in word reading skills.	...especially his difficulty in applying sound-symbol relationships and non-responsiveness to targeted intervention.
There are no problems with Kevin’s ability to perform physical tasks, such as walking, jumping, holding a pencil, or using scissors.	Kevin’s gross and fine motor coordination is within normal limits.
Overall, he paid attention throughout the tasks, followed instructions, and completed all tasks given to him.	Overall, Kevin showed adequate attention span, concentration, and persistence with little distractibility.
Kevin performed at similar levels on all four types of tasks.	Kevin’s four index scores did not show significant intercognitive scatter.
He was also asked to write words and sentences, paying attention to grammar, word meanings, and the way words are organized in sentences. Kevin performed at average levels on these tasks, scoring above approximately 42% of other children in the second grade.	He was also asked to write words and sentences paying attention to grammar, pragmatics, syntax and semantics. In this area Kevin performed in the average range and his standard score was 97 with a confidence interval of 90-104 (42 nd percentile)
Kevin’s current level of intellectual functioning is estimated to be above average compared to other students his age.	Kevin’s current level of intellectual functioning is estimated to be at the 70 th percentile compared to other students his age.
Therefore, Kevin’s level of achievement in math, written expression, and reading comprehension is similar to his current level of intellectual functioning.	Therefore, Kevin’s level of achievement in math, written expression, and reading comprehension is commensurate with his current level of intellectual functioning.
When engaged in the reading process, Kevin and the adult should discuss the story and pictures together as they read.	When engaged in the reading process, Kevin and the adult should utilize dialogic reading techniques.

Appendix E
Low-Jargon Full-Length Report
CONFIDENTIAL PSYCHOEDUCATIONAL REPORT

Name:	Kevin Johnson	Date of Report:	2-16-04
Parents:	Holden and Grace Johnson	Date of Testing:	1-23-04
Address:	123 Penfield Lane Berrytown, NY 10582	Date of Birth:	4-23-96
School:	Central Elementary School	Age:	7 years-9 months
		Grade:	2

REASON FOR REFERRAL

Kevin was referred for a psychoeducational evaluation by the school-based intervention team and his second grade teacher, Ms. August, due to concerns about his slow progress in reading, especially his difficulty “sounding out” words. They are also concerned that Kevin has not shown improvement after receiving extra help in word reading skills.

ASSESSMENT METHODS

Review of school records
Comprehensive Intellectual Ability Test (CIAT)
Tests of Academic Achievement (TOAA)
Parent, Teacher, and Child Interviews

BACKGROUND INFORMATION

Kevin is seven-years, nine-months-old and lives in Berrytown, NY with his mother, father, and younger sister. Kevin is currently in second grade at Central Elementary School. Kevin’s school records show that he attended both kindergarten and first grade at Central Elementary School.

Kevin’s mother reported that he was born full-term with no complications. She noted that he broke his arm when he was five years old and had chickenpox when he was three years old. No other educationally relevant illnesses or hospitalizations were reported. Mrs. Johnson said that Kevin recently passed both his hearing and vision screening tests. There are no problems with Kevin’s ability to perform physical tasks, such as walking, jumping, holding a pencil, or using scissors.

According to Mrs. Johnson, Kevin developed basic skills such as sitting, walking, and feeding himself at the expected age, with the exception of talking. She said that he did not start using phrases and sentences until he was three years old. Kevin attended preschool and began receiving speech and language therapy. Kevin has not received speech and language services in elementary school. Mrs. Johnson reported that she is mainly concerned with Kevin’s progress in reading. She indicated that he struggles to sound out words. Mrs. Johnson also noted Kevin would often refuse to go to school in both kindergarten and first grade, but this has not been a problem this year.

Kevin's second grade teacher reported that he is a quiet and cooperative student. She noted that he is often reluctant to participate in class because of his inability to read as well as the other students. Ms. August commented that Kevin has the most difficulty with "sounding out" words and remembering the words once he has seen them in print. Kevin has been receiving Title I reading services since the beginning of first grade, but has made little progress.

BEHAVIORAL OBSERVATIONS

Classroom Observations

During Kevin's language arts class one afternoon, the school psychologist observed Kevin's ability to keep his attention on his school work. Kevin was following along in his book while his teacher read the directions to the class. Then, Kevin began writing sentences that went with the pictures in the workbook. Kevin raised his hand once to ask a question and got help. For the rest of the class, Kevin stayed in his seat, talked to his peers only when he was told to do so by his teacher, and completed his assignment.

Test Session Observations

During the test session, Kevin was pleasant and cooperative. Kevin responded positively to the examiner and testing situation throughout the assessment. Kevin tried all tasks given to him, even hard items. Overall, he paid attention throughout the tasks, followed instructions, and completed all tasks given to him. Therefore, the results of this evaluation should be considered typical of his current level of performance.

ASSESSMENT RESULTS

Intellectual Functioning

The Comprehensive Intellectual Ability Test (CIAT) was used to assess Kevin's current level of intelligence. The CIAT is a measure of general learning ability and serves as a predictor of future academic performance.

Kevin performed in the average range of general intellectual functioning. That is, he scored higher than around 70% of children his age when asked to perform a wide variety of verbal reasoning, non-verbal reasoning, memory, and processing speed tasks. The verbal reasoning tasks measured Kevin's ability to think in words and use language skills and knowledge gained from his environment. The non-verbal reasoning tasks measured Kevin's ability to create and analyze patterns and designs. The memory tasks were designed to measure working memory, or the ability to hold something in memory long enough to use it to produce a result. An example of working memory would be to remember some numbers long enough to solve a matching puzzle or dial the telephone. The processing speed task measured Kevin's ability to quickly and accurately look at, put in order, or tell apart simple visual shapes and designs. Kevin performed at similar levels on all four types of tasks.

Academic

The Test of Academic Achievement - Second Edition (TOAA-II) was used to assess Kevin's academic achievement in the areas of reading, mathematics, and written expression. Kevin's performance was compared to that of a representative national sample of students also in second grade.

Reading. Kevin was asked to do a variety of word reading and pre-reading tasks. For example, to recognize beginning and ending sounds in words spoken aloud, combine spoken sounds to create a simple word, read unfamiliar words by “sounding out” their letters, and recognize common sight words. Kevin’s performance was well below average on these tasks. He scored only higher than approximately 7% of second grade students on these basic word reading skills.

Kevin was also asked to read sentences and short passages with picture cues and then answer questions about what he had read. On this measure of reading comprehension, Kevin scored in the average range, performing above approximately 37% of other second grade students on these tasks. He seemed to do well when asked to use test and picture cues to answer direct questions, but had trouble answering questions that required him to infer information beyond what was stated or displayed.

Math. Kevin was asked to do a variety of addition and subtraction problems to measure his math calculation skills. He performed in the average range, scoring above approximately 82% of other second grade students. Kevin’s math reasoning skills were tapped by asking him to solve problems requiring multiple steps related to patterns, time, money, measurement, and geometry. He performed in the average range, scoring above approximately 55% of other second grade students in math reasoning.

Written Expression. Kevin was asked to spell words similar to a standard dictated spelling test. He was also asked to write words and sentences, paying attention to grammar, word meanings, and the way words are organized in sentences. Kevin performed at average levels on these tasks, scoring above approximately 42% of other children in the second grade.

Social/Emotional Functioning

No emotional concerns, such as dealing with stress by becoming nervous or worrying or by becoming overactive, fighting or acting out, were reported by Kevin’s teacher or parents. Kevin’s teacher reported that Kevin gets along well with adults and classmates. She said that Kevin works very hard and wants to do well. His mother also reported that he gets along well with his peers. For example, Mrs. Johnson reported that Kevin plays Little League baseball and soccer and she described him as “a good sport.”

Kevin reported that he likes school, his friends, his family, and his teacher. He said that he likes to play sports and ride his bike after school. Kevin reported that math is his favorite subject and that “reading is tough when I don’t know the words.”

SUMMARY

Kevin is a seven-year-old boy who was referred for an evaluation by the school-based intervention team and by his teacher. Kevin's current level of intellectual functioning is estimated to be above average compared to other students his age. Kevin's math calculation scores were above average and his math reasoning was average. His written expression and reading comprehension scores were average as well. Therefore, Kevin's level of achievement in math, written expression, and reading comprehension is similar to his current level of intellectual functioning. In contrast, Kevin's performance in word reading is well below average, which is substantially lower than we would expect given his current intellectual functioning. No medical, social, or emotional concerns were noted.

RECOMMENDATIONS

1. In order to improve Kevin's sight word recognition, create flashcards using a mix of words Kevin does and does not know. Kevin should review the cards daily. New cards can be added after he has learned the words.
2. Kevin should be given the opportunity to read in a group that is at his level or slightly above. This will help Kevin be confident about his success with reading.
3. Kevin could also engage in tutoring with a classmate within the classroom. He could be paired with a strong reader who needs help in math and that student could help Kevin with his reading.
4. Kevin should be encouraged to read books that allow him to experience success. Regular visits to the school or local library would allow Kevin to choose books that are based on his interests.
5. It is important for Kevin to read with an adult on a daily basis for fun. When engaged in the reading process, Kevin and the adult should discuss the story and pictures together as they read.
6. Having a time when family members take turns reading to each other will provide Kevin with an opportunity to see that reading is valued.
7. Praise Kevin for attempts to engage in reading. Show him that the success he has with reading (e.g., figuring out a new word) is due to his effort.

Samantha Smith, M. S.
Certified School Psychologist
Central Area School District
Berrytown, NY

Appendix F
 Low-Jargon Summary Report
CONFIDENTIAL PSYCHOEDUCATIONAL REPORT

Name:	Kevin Johnson	Date of Report:	2-16-04
Parents:	Holden and Grace Johnson	Date of Testing:	1-23-04
Address:	123 Penfield Lane	Date of Birth:	4-23-96
	Berrytown, NY 10582	Age:	7 years-9 months
School:	Central Elementary School	Grade:	2

Kevin is a seven-year-old boy who was referred for an evaluation by the school-based intervention team and by his teacher due to concerns about his slow progress in reading, especially his difficulty “sounding out” words. Kevin has not shown improvement after receiving extra help in word reading skills. According to Mrs. Johnson, Kevin developed basic skills such as sitting, walking, and feeding himself at the expected age, with the exception of talking. There are no problems with Kevin’s ability to perform physical tasks, such as walking, jumping, holding a pencil, or using scissors. Kevin would often refuse to go to school in both kindergarten and first grade, but this has not been a problem this year.

During Kevin’s language arts class one afternoon, the school psychologist observed Kevin’s ability to keep his attention on his school work and no problems were noted in this area. Throughout the testing session, Kevin paid attention to the tasks, followed instructions, and completed all tasks given to him. Therefore, the results of this evaluation should be considered typical of his current level of performance.

Kevin’s current level of intellectual functioning is estimated to be above average compared to other students his age. Compared to other students his age, Kevin’s math calculation scores were above average and his math reasoning was average. His written expression and reading comprehension scores were average as well. Therefore, Kevin’s level of achievement in math, written expression, and reading comprehension is similar to his current level of intellectual functioning. In contrast, Kevin’s performance in word reading is well below average, which is substantially lower than we would expect given his current intellectual functioning. No medical, social, or emotional concerns were noted.

RECOMMENDATIONS

1. In order to improve Kevin’s sight word recognition, create flashcards using a mix of words Kevin does and does not know. Kevin should review the cards daily. New cards can be added after he has learned the words.
2. Kevin should be given the opportunity to read in a group that is at his level or slightly above. This will help Kevin be confident about his success with reading.

3. Kevin could also engage in tutoring with a classmate within the classroom. He could be paired with a strong reader who needs help in math and that student could help Kevin with his reading.
4. Kevin should be encouraged to read books that allow him to experience success. Regular visits to the school or local library would allow Kevin to choose books that are based on his interests.
5. It is important for Kevin to read with an adult on a daily basis for fun. When engaged in the reading process, Kevin and the adult should discuss the story and pictures together as they read.
6. Having a time when family members take turns reading to each other will provide Kevin with an opportunity to see that reading is valued.
7. Praise Kevin for attempts to engage in reading. Show him that the success he has with reading (e.g., figuring out a new word) is due to his effort.

Samantha Smith, M. S.
Certified School Psychologist
Central Area School District
Berrytown, NY

Appendix G
High-Jargon Full-Length Report
CONFIDENTIAL PSYCHOEDUCATIONAL REPORT

Name:	Kevin Johnson	Date of Report:	2-16-06
Parents:	Holden and Grace Johnson	Date of Testing:	1-23-06
Address:	123 Penfield Lane Berrytown, NY 10582	Date of Birth:	4-23-98
School:	Central Elementary School	Age:	7-9
		Grade:	2

REASON FOR REFERRAL

Kevin was referred for a psychoeducational evaluation by the Instructional Support Team and his second grade teacher, Ms. August, due to concerns about his slow progress in reading, especially his difficulty in applying sound-symbol relationships and non-responsiveness to targeted intervention.

ASSESSMENT METHODS

Review of school records
Comprehensive Intellectual Ability Test (CIAT)
Tests of Academic Achievement (TOAA)
Parent, Teacher, and Child Interviews

BACKGROUND INFORMATION

Kevin, with a chronological age of 7-9, lives in Berrytown, NY with his mother, father, and younger sister. Kevin is currently in second grade at Central Elementary School. Kevin's school records show that he attended both kindergarten and first grade at Central Elementary School.

Kevin's mother reported that he was born full-term with no complications. She noted that he broke his arm when he was five years old and had varicella when he was three years old. No other educationally relevant illnesses or hospitalizations were reported. Mrs. Johnson said that Kevin recently passed both his hearing and vision screening tests. Kevin's gross and fine motor coordination is within normal limits.

According to Mrs. Johnson, Kevin's attainment of developmental milestones was within the normal range of expectation, with the exception of initiation of speech. She said that he did not start using phrases and sentences until he was three years old. Kevin attended preschool and began receiving speech and language therapy. Kevin has not received speech and language services in elementary school. Mrs. Johnson reported that she is mainly concerned with Kevin's progress in reading. She indicated that he struggles to phonetically analyze and decode words. Mrs. Johnson also noted significant school phobia for Kevin in both kindergarten and first grade, which has since resolved.

Kevin's second grade teacher reported that he is a quiet and cooperative student. She noted that he is often reluctant to participate in class because of his inability to read as well as the other students. Ms. August commented that Kevin has the most difficulty with applying sound-symbol relationships and remembering the words once he has seen them in print. Kevin has been receiving Title I reading services since the beginning of first grade, but has made little progress.

BEHAVIORAL OBSERVATIONS

Classroom Observations

During Kevin's language arts class one afternoon, the school psychologist completed a time on-task fixed interval classroom observation. Kevin was following along in his book while his teacher read the directions to the class. Then, Kevin began writing sentences that went with the pictures in the workbook. Kevin raised his hand once to ask a question and got help. For the rest of the class, Kevin stayed in his seat, talked to his peers only when he was told to do so by his teacher, and completed his assignment.

Test Session Observations

During the test session, Kevin was pleasant and cooperative. Rapport was made and kept throughout the evaluation. Overall, Kevin showed adequate attention span, concentration, and persistence with little distractibility. Therefore, the results of this evaluation should be considered valid estimates of Kevin's current level of functioning.

ASSESSMENT RESULTS

Intellectual Functioning

The Comprehensive Intellectual Ability Test (CIAT) was used to assess Kevin's current level of intellectual functioning. The CIAT is a measure of general learning ability and psychological processes and serves as a predictor of future academic and performance.

Kevin's overall level of intellectual functioning was indicated by his FSIQ standard score of 108 with a 90% confidence interval of 104 to 112, which falls at the 70th percentile and in the average range. The FSIQ is comprised of scores from four composite indices: VCI, PRI, PSI, and WMI. The VCI measures the ability to think linguistically and utilize knowledge acquired from one's environment. Kevin's performance on the VCI was a 114, falling at the 82nd percentile. The next composite, the PRI measures the ability to analyze and synthesize abstract, non-verbal images. It is also a measure of concept formation and visual-motor integration. Kevin's standard score in this area was 106, at the 66th percentile. The third composite, the WMI, measures the ability to temporarily hold information in memory long enough to use and produce a result. Kevin's score on this composite is a standard score of 110, falling at the 75th percentile. Finally, the PSI is a measure of Kevin's cognitive efficiency in quickly scanning, sequencing, or discriminating simple visual information. Kevin's score on this composite was 97, at the 42nd percentile. Kevin's four index scores did not show significant intracognitive scatter.

Academic

The Test of Academic Achievement - Second Edition (TOAA-II) was used to assess Kevin's academic achievement in the areas of reading, mathematics, and written expression. Kevin's performance was compared to a normative sample of second grade peers.

Reading. For the Word Reading subtest Kevin's standard score was 78 with a confidence interval of 74 - 82 (7th percentile), placing him in the well below average range. Kevin displayed little phonemic awareness and he was unable to analyze and decode common sight words.

For the Reading Comprehension subtest, Kevin's standard score was found to be 95 with a confidence interval of 88-102 (37th percentile), placing him in the average range for these skills. Error analysis showed weaknesses in answering inferential questions.

Math. Math Calculation subtest measuring his facility and automaticity with numbers. On this subtest, Kevin performed in the average range and obtained a standard score of 114 with a confidence interval of 103-125 (82nd percentile). For the Math Reasoning subtest Kevin performed in the average range with a standard score of 102 and a confidence interval of 95-109 (55th percentile), showing minimal difficulty with analytic attention and problem solving.

Written Expression. Lastly, Kevin's written expression was evaluated using dictated spelling. He was also asked to write words and sentences paying attention to grammar, pragmatics, syntax and semantics. In this area Kevin performed in the average range and his standard score was 97 with a confidence interval of 90-104 (42nd percentile).

Social/Emotional Functioning

No externalizing or internalizing problems were reported by Kevin's teacher or parents. Kevin's teacher reported that Kevin gets along well with adults and classmates. She said that Kevin works very hard and wants to do well. His mother also reported that he gets along well with his peers. For example, Mrs. Johnson reported that Kevin plays Little League baseball and soccer and is "a good sport."

Kevin reported that he likes school, his friends, his family, and his teacher. He said that he likes to play sports and ride his bike after school. Kevin reported that math is his favorite subject and that "reading is tough when I don't know the words."

SUMMARY

Kevin is a boy with a chronological age of 7-9 who was referred for an evaluation by the IST and his teacher. Kevin's current level of intellectual functioning is estimated to be at the 70th percentile compared to other students his age. Kevin's math calculation scores were at the 82nd percentile and his math reasoning was at the 55th percentile. His written expression and reading comprehension scores were at the 42nd and 37th percentile, respectively. Therefore, Kevin's level of achievement in math, written expression, and reading comprehension is commensurate with his current level of intellectual functioning. In contrast, Kevin's performance in word reading was at the 7th percentile, which is significantly depressed given his current intellectual functioning. No medical, social, internalizing, or externalizing concerns were noted.

RECOMMENDATIONS

1. In order to improve Kevin's sight word recognition, drill sandwich techniques should be used on a daily basis.
2. Kevin should be given the opportunity to read in a group that is within his zone of proximal development. This will help Kevin be confident about his success with reading.
3. Kevin could also engage in peer tutoring within the classroom. He could be paired with a strong reader who needs help in math and that student could help Kevin with his reading.
4. Kevin should be encouraged to read books that allow him to experience success. Regular visits to the school or local library would allow Kevin to choose books that are based on his interests.
5. It is important for Kevin to read with an adult on a daily basis for fun. When engaged in the reading process, Kevin and the adult should utilize dialogic reading techniques.
6. Having a time when family members take turns reading to each other will provide Kevin with an opportunity to see that reading is valued.
7. Praise Kevin for attempts to engage in reading. Show him that the success he has with reading (e.g., decoding a new word) is due to his effort.

Samantha Smith, M. S.
Certified School Psychologist
Central Area School District
Berrytown, NY

Appendix H
High-Jargon Summary Report
CONFIDENTIAL PSYCHOEDUCATIONAL REPORT

Name:	Kevin Johnson	Date of Report:	2-16-06
Parents:	Holden and Grace Johnson	Date of Testing:	1-23-06
Address:	123 Penfield Lane Berrytown, NY 10582	Date of Birth:	4-23-98
School:	Central Elementary School	Age:	7-9
		Grade:	2

Kevin is boy with a chronological age of 7-9 was referred for an evaluation by the IST and his teacher due to concerns about his slow progress in reading, especially his difficulty in applying sound-symbol relationships and non-responsiveness to targeted intervention. According to Mrs. Johnson, Kevin's attainment of developmental milestones was within the normal range of expectation, with the exception of initiation of speech. Kevin's gross and fine motor coordination is within normal limits. Kevin exhibited significant school phobia in both kindergarten and first grade, which has since resolved.

During Kevin's language arts class one afternoon, the school psychologist completed a time on-task fixed interval classroom observation and no problems were noted in this area. Throughout the testing session, Kevin showed adequate attention span, concentration, and persistence with little distractibility. Therefore, the results of this evaluation should be considered valid estimates of Kevin's current level of functioning.

Kevin's current level of intellectual functioning is estimated to be at the 70th percentile compared to other students his age. Kevin's math calculation scores were at the 82nd percentile and his math reasoning was at the 55th percentile. His written expression and reading comprehension scores were at the 42nd and 37th percentile, respectively. Therefore, Kevin's level of achievement in math, written expression, and reading comprehension is commensurate with his current level of intellectual functioning. In contrast, Kevin's performance in word reading was at the 7th percentile, which is significantly depressed given his current intellectual functioning. No medical, social, internalizing, or externalizing concerns were noted.

RECOMMENDATIONS

1. In order to improve Kevin's sight word recognition, drill sandwich techniques should be used on a daily basis.
2. Kevin should be given the opportunity to read in a group that is within his zone of proximal development. This will help Kevin be confident about his success with reading.

3. Kevin could also engage in peer tutoring within the classroom. He could be paired with a strong reader who needs help in math and that student could help Kevin with his reading.
4. Kevin should be encouraged to read books that allow him to experience success. Regular visits to the school or local library would allow Kevin to choose books that are based on his interests.
5. It is important for Kevin to read with an adult on a daily basis for fun. When engaged in the reading process, Kevin and the adult should utilize dialogic reading techniques.
6. Having a time when family members take turns reading to each other will provide Kevin with an opportunity to see that reading is valued.
7. Praise Kevin for attempts to engage in reading. Show him that the success he has with reading (e.g., decoding a new word) is due to his effort.

Samantha Smith, M. S.
Certified School Psychologist
Central Area School District
Berrytown, NY

Appendix I
Instructions Checklist

Please complete steps in the order they appear on this checklist.

- ___ 1. Read informed consent form and retain for your records.
- ___ 2. Read Report #1.
- ___ 3. Open brown envelope.
- ___ 4. Remove Questionnaires and place Report #1 in brown envelope.
- ___ 5. Answer Questionnaires in the order they are presented.
- ___ 6. Open white envelope.
- ___ 7. Remove Report #2 and place completed questionnaires in white envelope.
- ___ 8. Respond to Comparison Questionnaire.
- ___ 9. Respond to Demographics Questionnaire.
- ___ 10. Return completed materials.

Appendix J
Implied Informed Consent Form for Social Science Research
 The Pennsylvania State University

ORP USE ONLY: IRB# 24639 Doc.#1
The Pennsylvania State University
Office for Research Protections
Approval Date: 02-02-07 DWM

Title of Project: Psychoeducational Reports: Impact of Language and Report Length on Teacher and Parent Recall and Acceptance

Principal Investigator: Leah B. Bucknavage
 408 Fort Washington Ave, Hawthorne, NY 10532
 (860) 335-2904, lbb133@psu.edu

Advisor: Dr. Barbara Schaefer
 104 CEDAR Building, University Park, PA 16802
 (814) 865-1953, bas19@psu.edu

1. **Purpose of the Study:** The purpose of this research is to examine two strategies for improving teacher and parent comprehension of psychoeducational reports. Specifically, the effects of technical language and report length on teacher and parent recall and acceptance will be examined.
2. **Procedures to be followed:** You will be asked to read a psychological report about a fictional child, complete a 24-item recall questionnaire, a 12-item acceptability and perceived comprehension questionnaire, and a 9-item comparison questionnaire, and provide some basic demographic information.
3. **Discomforts and Risks:** There are no risks in participating in this research beyond those experienced in everyday life.
4. **Benefits:** By participating in this research participants will gain familiarity with school psychologists' reports as they are used in many schools. Also, this research might provide information that could be used to improve the reports written by school psychologists. These improvements would make it easier for teachers and parents to understand the information presented to them in school psychologists' reports.
5. **Duration/Time:** It will take about 20 minutes to read the report and complete the questionnaires.
6. **Statement of Confidentiality:** Your participation in this research will remain confidential. The survey does not ask for any information that would identify who the responses belong to. Your responses are recorded without identifiers and will be stored on a password protected computer in a locked room. Only the investigator and advisor will have access to the data. The following may review and copy records related to this research: The Office of Human Research Protections in the U.S. Department of Health and Human Services, Penn State University's Social Science Institutional Review Board, and Penn State University's Office for Research Protections. In the event of any publication or presentation resulting from the

research, no personally identifiable information will be shared because your name is in no way linked to your responses.

7. **Right to Ask Questions:** You can ask questions about this research. Contact Leah Bucknavage at (860) 335-2904 with questions. You can also call this number if you have complaints or concerns about this research. If you have questions about your rights as a research participant, or you have concerns or general questions about the research, contact The Pennsylvania State University's Office for Research Protections at (814) 865-1775. You may also call this number if you cannot reach the research team or wish to talk to someone else.
8. **Payment for participation:** You may enter for a chance to win a \$20 gift certificate.
9. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

You must be 18 years of age or older to take part in this research study.

Completion and return of the survey implies that you have read the information in this form and consent to take part in the research.

Please keep this form for your records or future reference.

Appendix K
Teacher Demographic Questionnaire

Please mark an X on the line corresponding to your response for each item.

1. What is your gender?

- Male
 Female

2. What is your age? _____

3. What is your ethnicity?

- African American
 Asian American
 Hispanic American
 White/Caucasian
 Other
 Decline to answer

4. What is the highest level of education you have completed?

- college degree
 some graduate school courses
 master's degree
 doctoral degree

5. What grade(s) do you currently teach? _____

6. How many years teaching experience do you have? _____

7. Please estimate how many psychoeducational reports you have read? _____

- 0
 1 – 4
 5 – 10
 10 – 20
 more than 20

8. Do you have experience with special education or school psychology service outside of your role as an educator?

- No
 Yes (if yes please explain the amount and type of experience you have)

Appendix L
Parent Demographic Questionnaire

Please mark an X on the line corresponding to your response for each item.

1. What is your gender?

- Male
 Female

2. What is your age? _____

3. What is your ethnicity?

- African American
 Asian American
 Hispanic American
 White/Caucasian
 Other
 Decline to answer

4. What is your level of proficiency in reading and understand English?

1 (none) (completely fluent)	2 (very little)	3 (moderate)	4 (high)	5
---------------------------------	-----------------	--------------	-----------	---

5. What is the highest level of education you have completed?

- less than high school
 high school
 some college (less than 4 years)
 bachelors degree
 graduate degree

6. What is your profession? _____

7. In what grade are you children currently enrolled? _____

8. Has your child ever received special education services? Yes No

9. Has your child ever been evaluated by a school psychologist? Yes No

10. Have you ever read a report written by a school psychologist before today? Yes No

11. Do you have teaching experience?

- No
 Yes (if yes please explain the amount and type of experience you have)

Appendix M IRB Approval

PENN STATE



Senior Vice President for Research
Office for Research Protections

The Pennsylvania State University
201 Kern Graduate Building
University Park, PA 16802-3301

(814) 863-1775
Fax: (814) 863-8699
www.research.psu.edu/orp/

Date: February 2, 2007

From: Dolores W. Maney, IRB Administrator

To: Leah Bucknavage

Subject: Results of Review of Proposal - Expedited (IRB #24639)
Approval Expiration Date: January 18, 2008
"Psychoeducational Reports: Impact of Jargon and Report Length on Teacher and Parent Recall and Acceptance"

The Social Science Institutional Review Board (IRB) has reviewed and approved your proposal for use of human participants in your research. By accepting this decision, you agree to obtain prior approval from the IRB for any changes to your study. Unanticipated participant events that are encountered during the conduct of this research must be reported in a timely fashion.

Enclosed is/are the dated, IRB-approved informed consent(s) to be used when recruiting participants for this research. Participants must receive a copy of the approved informed consent form to keep for their records.

If signed consent is obtained, the principal investigator is expected to maintain the original signed consent forms along with the IRB research records for this research at least three (3) years after termination of IRB approval. For projects that involve protected health information (PHI) and are regulated by HIPAA, records are to be maintained for six (6) years. The principal investigator must determine and adhere to additional requirements established by the FDA and any outside sponsors.

If this study will extend beyond the above noted approval expiration date, the principal investigator must submit a completed Continuing Progress Report to the Office for Research Protections (ORP) to request renewed approval for this research.

On behalf of the IRB and the University, thank you for your efforts to conduct your research in compliance with the federal regulations that have been established for the protection of human participants.

DWM/dwm
Enclosure
cc: Barbara A. Schaefer

Please Note: The ORP encourages you to subscribe to the ORP listserv for protocol and research-related information. Send a blank email to: L-ORP-Research-L-subscribe-request@lists.psu.edu

Appendix N
Data

ID	type	jargon	length	gender	age	ethnic	educate	r1	r1score	r2	r2score	r3	r3score	r4	r4score	r5	r5score	r6
TA043	1	1	1	1	54	4	3	d	1	b	0	c	0	b	0	d	1	b
TA025	1	1	1	1	44	5	3	a	0	b	0	b	0	b	0	d	1	d
TA033	1	1	1	1	-9	4	3	d	1	c	0	c	0	c	1	b	0	d
TA039	1	1	1	1	62	4	3	a	0	b	0	d	1	b	0	d	1	d
TA031	1	1	1	1	48	4	3	a	0	c	0	c	0	c	1	d	1	b
TA027	1	1	1	1	32	6	3	b	0	b	0	c	0	c	1	d	1	d
TA029	1	1	1	2	30	6	3	a	0	d	1	c	0	b	0	d	1	b
TA041	1	1	1	1	-9	6	3	d	1	b	0	c	0	c	1	d	1	b
TA045	1	1	1	1	32	3	3	d	1	d	1	d	1	b	0	b	0	d
TA047	1	1	1	1	34	3	3	a	0	d	1	cc	0	c	1	d	1	b
TA035	1	1	1	1	36	1	3	a	0	d	1	c	0	b	0	d	1	b
TA037	1	1	1	1	27	4	3	d	1	d	1	c	0	c	1	d	1	b
TA015	1	1	1	1	-9	4	3	a	0	c	0	d	1	b	0	d	1	d
TA005	1	1	1	2	56	4	3	a	0	b	0	c	0	b	0	d	1	d
TA003	1	1	1	2	37	4	3	d	1	d	1	c	0	a	0	d	1	d
TA011	1	1	1	1	39	2	3	d	1	d	1	d	1	b	0	d	1	d
TA009	1	1	1	1	38	1	3	a	0	b	0	d	1	c	1	d	1	b
TA021	1	1	1	1	-9	6	3	d	1	d	1	c	0	b	0	d	1	c
TA019	1	1	1	1	56	1	3	d	1	d	1	c	0	c	1	d	1	b
TA017	1	1	1	1	62	4	3	d	1	b	0	d	1	a	0	d	1	d
TA007	1	1	1	1	39	4	3	d	1	d	1	d	1	c	1	d	1	b
TA001	1	1	1	1	32	4	3	c	0	d	1	c	0	c	1	d	1	b
TA023	1	1	1	1	48	4	3	d	1	d	1	d	1	c	1	-9	0	b
TA049	1	1	1	1	28	4	3	d	1	c	0	c	0	c	1	d	1	d
TA034	1	1	2	1	48	4	3	a	0	d	1	c	0	a	0	d	1	b
TA026	1	1	2	1	30	5	3	d	1	d	1	d	1	c	1	d	1	b
TA042	1	1	2	1	54	4	3	d	1	d	1	c	0	c	1	d	1	b
TA032	1	1	2	1	49	4	3	d	1	c	0	c	0	c	1	d	1	b
TA044	1	1	2	1	51	4	3	b	0	b	0	c	0	a	0	d	1	b
TA040	1	1	2	1	39	4	3	d	1	d	1	c	0	a	0	d	1	b
TA028	1	1	2	1	30	4	3	d	1	b	0	c	0	a	0	c	0	d
TA046	1	1	2	1	-9	-9	-9	a	0	b	0	c	0	b	0	d	1	d
TA038	1	1	2	1	35	6	3	a	0	a	0	c	0	a	0	d	1	d
TA018	1	1	2	1	32	4	3	d	1	b	0	c	0	b	0	d	1	b
TA010	1	1	2	2	36	4	3	a	0	d	1	c	0	c	1	d	1	b
TA020	1	1	2	1	27	4	2	d	1	b	0	b	0	b	0	d	1	b
TA002	1	1	2	1	23	2	2	d	1	d	1	c	0	c	1	d	1	b
TA012	1	1	2	1	25	4	3	d	1	d	1	d	1	c	1	c	0	b
TA014	1	1	2	1	42	4	3	d	1	d	1	a	0	b	0	d	1	b
TA008	1	1	2	1	29	4	3	d	1	d	1	c	0	c	1	d	1	b
TA006	1	1	2	1	53	4	3	d	1	b	0	c	0	c	1	d	1	b
TA004	1	1	2	1	50	1	4	a	0	b	0	d	1	b	0	d	1	d
TA024	1	1	2	1	31	4	3	d	1	b	0	c	0	c	1	d	1	b
TA022	1	1	2	1	33	2	3	d	1	-9	0	c	0	c	1	d	1	d
TB091	1	2	1	1	35	4	3	d	1	d	1	d	1	c	1	d	1	b
TB093	1	2	1	1	29	4	3	a	0	d	1	d	1	d	0	a	0	d
TB075	1	2	1	1	26	4	3	a	0	a	0	d	1	d	0	d	1	b
TB081	1	2	1	1	29	4	3	d	1	d	1	d	1	d	0	d	1	b
TB077	1	2	1	1	29	3	3	b	0	d	1	b	0	b	0	d	1	d
TB087	1	2	1	1	50	4	3	d	1	d	1	d	1	c	1	c	0	b
TB083	1	2	1	1	24	4	3	d	1	d	1	d	1	c	1	d	1	b
TB059	1	2	1	2	26	4	3	d	1	b	0	d	1	c	1	d	1	b
TB069	1	2	1	2	41	4	3	d	1	d	1	d	1	d	0	d	1	b
TB055	1	2	1	1	24	4	3	d	1	d	1	-9	0	d	0	d	1	b
TB065	1	2	1	1	45	4	3	d	1	d	1	c	0	c	1	d	1	b

ID	r6score	r7	r7score	r8	r8score	r9	r9score	r10	r10score	r11	r11score	r12	r12score	r13	r13score	r14	r14score
TA043	1	d	1	b	0	a	1	c	1	a	1	c	1	b	1	b	1
TA025	0	d	1	c	1	d	0	c	1	b	0	c	1	-9	0	a	0
TA033	0	d	1	c	1	a	1	c	1	a	1	c	1	b	1	a	0
TA039	0	d	1	b	0	a	1	a	0	a	1	c	1	b	1	b	1
TA031	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TA027	0	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
TA029	1	d	1	a	0	a	1	c	1	a	1	c	1	b	1	a	0
TA041	1	d	1	c	1	d	0	c	1	b	0	n	0	a	0	a	0
TA045	0	d	1	b	0	d	0	b	0	b	0	c	1	b	1	b	1
TA047	1	d	1	c	1	a	1	c	1	b	0	c	1	a	0	b	1
TA035	1	d	1	c	1	a	1	c	1	b	0	d	0	b	1	b	1
TA037	1	d	1	c	1	a	1	c	1	a	1	c	1	a	0	b	1
TA015	0	d	1	b	0	a	1	c	1	a	1	c	1	b	1	c	0
TA005	0	d	1	b	0	a	1	c	1	a	1	c	1	a	0	b	1
TA003	0	d	1	b	0	a	1	c	1	a	1	c	1	b	1	b	1
TA011	0	d	1	b	0	a	1	b	0	a	1	c	1	a	0	b	1
TA009	1	d	1	c	1	c	0	c	1	a	1	c	1	a	0	b	1
TA021	0	b	0	b	0	d	0	-9	0	b	0	b	0	b	1	a	0
TA019	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TA017	0	d	1	b	0	a	1	c	1	a	1	c	1	b	1	b	1
TA007	1	d	1	c	1	a	1	c	1	a	1	c	1	a	0	b	1
TA001	1	d	1	c	1	d	0	c	1	b	0	c	1	a	0	b	1
TA023	1	d	1	-9	0	a	1	c	1	a	1	c	1	-9	0	-9	0
TA049	0	d	1	c	1	d	0	c	1	a	1	c	1	a	0	b	1
TA034	1	d	1	a	0	d	0	c	1	a	1	c	1	b	1	b	1
TA026	1	d	1	c	1	d	0	c	1	b	0	c	1	a	0	b	1
TA042	1	d	1	a	0	d	0	d	0	a	1	c	1	b	1	b	1
TA032	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TA044	1	d	1	c	1	d	0	c	1	a	1	c	1	b	1	a	0
TA040	1	d	1	c	1	b	0	d	0	b	0	c	1	b	1	b	1
TA028	0	d	1	b	0	a	1	d	0	a	1	c	1	b	1	b	1
TA046	0	d	1	c	1	b	0	c	1	a	1	c	1	b	1	b	1
TA038	0	d	1	a	0	a	1	d	0	a	1	c	1	c	0	b	1
TA018	1	d	1	b	0	a	1	c	1	b	0	b	0	b	1	b	1
TA010	1	d	1	b	0	a	1	c	1	a	1	c	1	b	1	b	1
TA020	1	d	1	c	1	b	0	c	1	b	0	c	1	a	0	a	0
TA002	1	d	1	c	1	a	1	b	0	a	1	c	1	b	1	b	1
TA012	1	d	1	b	0	a	1	c	1	a	1	c	1	b	1	b	1
TA014	1	d	1	a	0	d	0	c	1	b	0	c	1	d	0	a	0
TA008	1	d	1	c	1	a	1	c	1	a	1	b	0	a	0	b	1
TA006	1	d	1	c	1	a	1	c	1	b	0	c	1	a	0	b	1
TA004	0	d	1	c	1	b	0	c	1	b	0	c	1	a	0	b	1
TA024	1	d	1	c	1	a	1	d	0		0	c	1	a	0	b	1
TA022	0	d	1	c	1	a	1	c	1	b	0	c	1	a	0	b	1
TB091	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB093	0	d	1	c	1	d	0	c	1	b	0	b	0	a	0	b	1
TB075	1	d	1	d	0	d	0	c	1	d	0	c	1	b	1	b	1
TB081	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB077	0	d	1	b	0	d	0	c	1	b	0	c	1	b	1	b	1
TB087	1	d	1	c	1	d	0	c	1	c	0	c	1	a	0	a	0
TB083	1	d	1	c	1	d	0	c	1	a	1	a	0	b	1	b	1
TB059	1	d	1	c	1	a	1	c	1	b	0	c	1	b	1	b	1
TB069	1	d	1	c	1	a	1	c	1	b	0	c	1	b	1	b	1
TB055	1	d	1	b	0	a	1	c	1	a	1	c	1	b	1	b	1
TB065	1	-9	0	c	1	a	1	c	1	b	0	c	1	a	0	b	1

ID	r15	r15score	r16	r16score	r17	r17score	r18	r18score	r19	r19score	r20	r20score	total	p1	p2	p3	p4
TA043	a	1	b	0	c	0	d	1	b	0	d	1	13	2	2	3	2
TA025	a	1	-9	0	c	0	d	1	d	0	d	1	8	3	2	2	3
TA033	c	0	a	1	b	0	a	0	d	0	a	0	10	4	4	3	4
TA039	a	1	b	0	d	1	d	1	d	0	d	1	12	4	4	3	4
TA031	b	0	a	1	c	0	b	0	b	0	d	1	13	4	5	5	2
TA027	d	0	d	0	c	0	b	0	c	1	d	1	11	4	4	4	4
TA029	a	1	d	0	a	0	b	0	d	0	a	0	10	2	3	2	3
TA041	a	1	b	0	c	0	b	0	b	0	d	1	9	4	4	4	3
TA045	c	0	c	0	b	0	b	0	b	0	a	0	7	2	2	1	2
TA047	a	1	b	0	c	0	c	0	c	1	d	1	13	4	5	4	4
TA035	c	0	b	0	c	0	b	0	b	0	a	0	9	2	2	2	2
TA037	a	1	b	0	b	0	b	0	b	0	d	1	14	4	4	2	2
TA015	d	0	a	1	b	0	b	0	d	0	b	0	9	2	2	3	3
TA005	a	1	c	0	c	0	b	0	d	0	d	1	9	5	4	4	4
TA003	a	1	c	0	b	0	c	0	b	0	d	1	12	2	4	4	4
TA011	a	1	a	1	b	0	d	1	c	1	d	1	14	4	4	4	4
TA009	a	1	a	1	c	0	b	0	b	0	d	1	13	5	5	4	5
TA021	a	1	c	0	b	0	b	0	c	1	a	0	6	4	4	3	4
TA019	a	1	d	0	c	0	c	0	c	1	d	1	16	5	5	4	5
TA017	d	0	-9	0	b	0	-9	0	d	0	d	1	11	4	4	4	3
TA007	d	0	a	1	c	0	d	1	c	1	d	1	17	2	4	4	2
TA001	a	1	d	0	b	0	d	1	d	0	d	1	12	5	5	4	5
TA023	a	1	-9	0	c	0	-9	0	c	1	d	1	13	2	3	2	2
TA049	d	0	b	0	c	0	b	0	d	0	d	1	10	5	5	5	5
TA034	d	0	b	0	c	0	a	0	c	1	d	1	11	4	3	2	3
TA028	a	1	b	0	c	0	b	0	b	0	a	0	12	4	5	4	4
TA042	a	1	a	1	b	0	c	0	b	0	d	1	13	2	2	2	2
TA032	a	1	d	0	c	0	c	0	b	0	d	1	14	5	5	4	3
TA044	a	1	a	1	c	0	d	1	b	0	d	1	12	3	3	3	3
TA040	a	1	b	0	c	0	d	1	c	1	d	1	13	2	2	4	2
TA028	c	0	a	1	c	0	d	1	c	1	d	1	11	5	5	5	5
TA046	n	0	d	0	c	0	a	0	c	1	d	1	10	3	4	4	4
TA038	d	0	b	0	c	0	d	1	d	0	a	0	7	5	5	5	5
TA018	a	1	d	0	c	0	d	1	c	1	a	0	11	2	4	3	2
TA010	a	1	b	0	c	0	c	0	b	0	d	1	13	3	4	4	4
TA020	d	0	d	0	b	0	c	0	c	1	a	0	8	5	4	4	2
TA002	a	1	b	0	c	0	d	1	b	0	d	1	15	3	4	4	3
TA012	c	0	d	0	c	0	b	0	b	0	d	1	13	5	5	4	5
TA014	b	0	a	1	b	0	c	0	c	1	d	1	10	4	4	4	4
TA008	a	1	d	0	c	0	d	1	c	1	d	1	15	2	4	2	2
TA006	a	1	d	0	c	0	d	1	c	1	d	1	14	4	4	4	5
TA004	a	1	a	1	c	0	b	0	b	0	d	1	10	4	2	2	2
TA024	a	1	a	1	c	0	d	1	c	1	d	1	14	3	4	4	3
TA022	c	0	a	1	c	0	b	0	c	1	d	1	12	5	5	5	5
TB091	a	1	d	0	d	1	b	0	c	1	d	1	18	5	5	5	5
TB093	a	1	b	0	d	1	b	0	d	0	d	1	9	2	4	4	3
TB075	a	1	b	0	d	1	a	0	b	0	d	1	11	2	2	3	2
TB081	a	1	a	1	d	1	c	0	c	1	d	1	18	5	5	5	5
TB077	a	1	a	1	b	0	b	0	d	0	d	1	10	3	3	2	3
TB087	a	1	b	0	c	0	c	0	b	0	n	0	10	5	4	4	3
TB083	b	0	b	0	c	0	b	0	b	0	d	1	13	5	5	5	5
TB059	a	1	b	0	c	0	b	0	b	0	a	0	13	5	5	4	5
TB069	a	1	b	0	d	1	c	0	c	1	d	1	16	4	4	4	4
TB055	-9	0	b	0	c	0	c	0	c	1	d	1	13	5	5	4	5
TB065	a	1	d	0	c	0	d	1	b	0	d	1	13	4	4	2	5

ID	type	jargon	length	gender	age	ethnic	educate	r1	r1score	r2	r2score	r3	r3score	r4	r4score	r5	r5score	r8
TB053	1	2	1	1	61	4	3	d	1	d	1	d	1	c	1	d	1	b
TB067	1	2	1	1	36	4	3	d	1	d	1	d	1	d	0	d	1	b
TB097	1	2	1	1	51	4	3	d	1	d	1	c	0	-9	0	-9	0	b
TB051	1	2	1	2	24	4	3	a	0	d	1	c	0	b	0	d	1	b
TB083	1	2	1	2	55	4	3	d	1	a	0	c	0	c	1	d	1	b
TB061	1	2	1	1	41	4	3	d	1	d	1	c	0	c	1	a	0	b
TB071	1	2	1	1	52	2	3	d	1	d	1	d	1	d	0	b	0	b
TB080	1	2	2	1	28	4	3	d	1	b	0	d	1	c	1	c	0	b
TB094	1	2	2	1	39	4	3	d	1	d	1	d	1	c	1	d	1	b
TB078	1	2	2	1	43	3	3	a	0	n	0	d	1	b	0	n	0	b
TB082	1	2	2	1	29	4	3	d	1	a	0	c	0	a	0	d	1	b
TB092	1	2	2	1	31	4	3	d	1	d	1	d	1	c	1	d	1	b
TB084	1	2	2	1	31	4	3	c	0	d	1	c	0	c	1	d	1	b
TB088	1	2	2	1	40	3	3	d	1	d	1	c	0	a	0	d	1	b
TB090	1	2	2	1	39	4	3	d	1	d	1	d	1	c	1	d	1	b
TB076	1	2	2	1	38	3	3	a	0	d	1	d	1	c	1	d	1	b
TB090	1	2	2	1	47	4	3	d	1	d	1	d	1	c	1	d	1	b
TB100	1	2	2	1	25	4	3	d	1	d	1	d	1	c	1	d	1	b
TB068	1	2	2	1	55	4	3	d	1	d	1	d	1	c	1	d	1	b
TB064	1	2	2	1	41	2	3	a	0	d	1	d	1	b	0	d	1	b
TB062	1	2	2	1	47	3	3	d	1	b	0	c	0	b	0	d	1	b
TB056	1	2	2	1	53	3	3	d	1	d	1	d	1	c	1	d	1	b
TB058	1	2	2	1	43	6	3	d	1	c	0	c	0	c	1	c	0	b
TB054	1	2	2	1	26	4	3	d	1	d	1	d	1	c	1	d	1	b
TB070	1	2	2	1	30	4	3	d	1	d	1	d	1	c	1	d	1	b
TB060	1	2	2	2	25	4	2	b	0	d	1	b	0	c	1	d	1	d
TB066	1	2	2	1	35	4	3	d	1	d	1	a	0	c	1	a	0	b
PA109	2	1	1	1	25	4	5	d	1	d	1	c	0	a	0	a	0	d
PA105	2	1	1	2	26	4	4	d	1	b	0	d	1	a	0	d	1	b
PA107	2	1	1	2	26	4	4	a	0	d	1	d	1	a	0	d	1	d
PA101	2	1	1	1	39	4	5	d	1	c	0	d	1	c	1	d	1	b
PA111	2	1	1	1	49	4	4	d	1	b	0	d	1	a	0	d	1	b
PA113	2	1	1	1	31	4	4	a	0	a	0	c	0	a	0	a	0	d
PA125	2	1	1	1	53	4	4	d	1	d	1	c	0	c	1	d	1	b
PA123	2	1	1	1	24	4	2	a	0	d	1	d	1	c	1	d	1	d
PA115	2	1	1	1	41	4	3	a	0	d	1	c	0	c	1	a	0	b
PA117	2	1	1	1	35	3	2	a	0	a	0	d	1	c	1	d	1	b
PA103	2	1	1	1	38	1	3	d	1	d	1	c	0	a	0	d	1	d
PA121	2	1	1	2	12	4	4	d	1	d	1	d	1	a	0	d	1	d
PA119	2	1	1	1	33	4	4	d	1	c	0	d	1	c	1	a	0	b
PA102	2	1	2	2	55	4	4	a	0	b	0	c	0	a	0	a	0	b
PA108	2	1	2	1	42	4	3	a	0	d	1	d	1	b	0	d	1	b
PA104	2	1	2	1	62	4	4	a	0	d	1	c	0	a	0	c	0	b
PA120	2	1	2	2	55	4	4	a	0	b	0	c	0	b	0	d	1	b
PA118	2	1	2	2	24	4	3	d	1	b	0	c	0	b	0	d	1	b
PA110	2	1	2	1	24	4	4	a	0	b	0	c	0	b	0	a	0	b
PA112	2	1	2	1	40	4	4	a	0	b	0	d	1	b	0	c	0	b
PA114	2	1	2	1	35	4	3	d	1	d	1	c	0	a	0	d	1	b
PA108	2	1	2	2	33	3	3	a	0	d	1	d	1	b	0	d	1	b
PA122	2	1	2	1	29	4	4	a	0	b	0	c	0	b	0	c	0	b
PA116	2	1	2	1	23	4	4	a	0	b	0	c	0	b	0	a	0	b
PA122	2	1	2	1	42	4	4	d	1	b	0	d	1	c	1	d	1	b
PB141	2	2	1	1	55	4	4	d	1	d	1	c	0	c	1	d	1	b
PB145	2	2	1	1	52	4	3	d	1	d	1	d	1	b	0	d	1	b
PB143	2	2	1	1	55	4	4	d	1	d	1	d	1	c	1	d	1	d

ID	r6score	r7	r7score	r8	r8score	r9	r9score	r10	r10score	r11	r11score	r12	r12score	r13	r13score	r14	r14score
TB053	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB067	1	d	1	d	0	d	0	c	1	a	1	c	1	b	1	b	1
TB097	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB051	1	d	1	b	0	d	0	d	0	b	0	d	0	b	1	b	1
TB083	1	d	1	c	1	a	1	c	1	b	0	c	1	b	1	b	1
TB081	1	d	1	c	1	a	1	c	1	b	0	-9	0	b	1	b	1
TB071	1	d	1	c	1	d	0	c	1	b	0	c	1	b	1	b	1
TB080	1	d	1	c	1	d	0	a	0	a	1	c	1	b	1	b	1
TB094	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB078	1	d	1	n	0	n	0	c	1	a	1	n	0	b	1	b	1
TB082	1	d	1	a	0	b	0	d	0	a	1	c	1	b	1	b	1
TB092	1	d	1	b	0	c	0	a	0	a	1	c	1	b	1	b	1
TB084	1	d	1	c	1	b	0	c	1	b	0	b	0	b	1	b	1
TB088	1	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
TB090	1	d	1	c	1	a	1	c	1	c	0	b	0	b	1	b	1
TB076	1	d	1	c	1	c	0	c	1	b	0	c	1	b	1	b	1
TB090	1	d	1	c	1	n	0	c	1	c	0	n	0	b	1	b	1
TB100	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB088	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB084	1	d	1	n	0	n	0	n	0	n	0	n	0	n	0	n	0
TB082	1	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
TB058	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB058	1	d	1	c	1	d	0	a	0	b	0	c	1	b	1	b	1
TB054	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
TB070	1	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
TB080	0	d	1	d	0	a	1	c	1	b	0	b	0	b	1	b	1
TB086	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
PA109	0	d	1	c	1	d	0	c	1	a	1	c	1	c	0	a	0
PA105	1	d	1	c	1	a	1	d	0	a	1	c	1	b	1	a	0
PA107	0	d	1	c	1	d	0	c	1	c	0	c	1	b	1	a	0
PA101	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
PA111	1	d	1	d	0	a	1	c	1	a	1	c	1	c	0	b	1
PA113	0	d	1	b	0	d	0	c	1	a	1	b	0	a	0	d	0
PA125	1	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
PA123	0	d	1	c	1	d	0	d	0	d	0	c	1	a	0	b	1
PA115	1	d	1	d	0	a	1	c	1	d	0	c	1	b	1	b	1
PA117	1	d	1	b	0	a	1	d	0	a	1	c	1	a	0	d	0
PA103	0	d	1	c	1	d	0	c	1	c	0	b	0	c	0	b	1
PA121	0	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
PA119	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	a	0
PA102	1	d	1	b	0	d	0	c	1	a	1	c	1	a	0	b	1
PA108	1	d	1	c	1	b	0	c	1	b	0	c	1	a	0	b	1
PA104	1	d	1	b	0	a	1	c	1	a	1	c	1	b	1	b	1
PA120	1	d	1	b	0	d	0	c	1	a	1	c	1	b	1	a	0
PA118	1	d	1	c	1	c	0	d	0	b	0	b	0	c	0	b	1
PA110	1	d	1	b	0	d	0	d	0	a	1	c	1	a	0	b	1
PA112	1	d	1	c	1	b	0	c	1	a	1	c	1	b	1	b	1
PA114	1	d	1	b	0	c	0	c	1	b	0	b	0	a	0	b	1
PA108	1	d	1	b	0	a	1	c	1	a	1	c	1	c	0	b	1
PA122	1	d	1	b	0	d	0	d	0	b	0	c	1	a	0	b	1
PA116	1	d	1	c	1	c	0	c	1	b	0	b	0	b	1	a	0
PA122	1	d	1	b	0	a	1	c	1	a	1	c	1	a	0	b	1
PB141	1	d	1	c	1	a	1	c	1	a	1	c	1	a	0	b	1
PB145	1	d	1	b	0	d	0	c	1	b	0	c	1	b	1	b	1
PB143	0	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1

ID	r15	r15score	r16	r16score	r17	r17score	r18	r18score	r19	r19score	r20	r20score	total	p1	p2	p3	p4
TB053	a	1	b	0	d	1	a	0	b	0	d	1	17	5	5	5	5
TB067	a	1	a	1	d	1	b	0	c	1	d	1	18	5	5	4	5
TB097	a	1	d	0	c	0	b	0	b	0	d	1	13	3	4	4	4
TB051	a	1	a	1	c	0	b	0	b	0	d	1	9	5	5	4	5
TB083	c	0	b	0	c	0	b	0	c	1	d	1	13	5	5	4	5
TB061	a	1	a	1	c	0	-9	0	b	0	d	1	13	5	5	4	4
TB071	a	1		0	d	1	b	0	c	1	d	1	14	5	5	5	5
TB080	a	1	d	0	c	0	d	1	b	0	a	0	12	4	3	4	4
TB094	a	1	d	0	d	1	b	0	c	1	d	1	18	5	5	5	5
TB078	a	1	a	1	c	0	b	0	c	1	d	1	11	4	4	2	4
TB082	a	1	a	1	c	0	c	0	b	0	d	1	11	4	4	4	4
TB092	a	1	b	0	c	0	c	0	b	0	d	1	13	4	4	4	3
TB084	d	0	a	1	c	0	b	0	c	1	d	1	12	5	5	5	5
TB088	a	1	d	0	c	0	b	0	c	1	a	0	13	2	4	4	3
TB090	a	1	a	1	c	0	c	0	b	0	d	1	15	5	5	5	5
TB076	a	1	a	1	d	1	d	1	b	0	d	1	18	5	5	5	5
TB090	a	1	a	1	c	0	d	1	c	1	d	1	16	5	5	5	5
TB100	a	1	d	0	c	0	b	0	c	1	d	1	17	4	4	3	4
TB068	a	1	b	0	c	0	d	1	c	1	d	1	18	5	5	5	5
TB064	n	0	d	0	d	1	d	1	c	1	d	1	9	4	2	2	3
TB082	a	1	d	0	b	0	-9	0	b	0	d	1	12	4	4	4	4
TB056	a	1	d	0	c	0	c	0	b	0	d	1	16	5	5	5	5
TB058	a	1	a	1	c	0	d	1	b	0	d	1	12	5	5	5	4
TB054	a	1	d	0	c	0	c	0	c	1	d	1	17	4	4	4	4
TB070	a	1	a	1	c	0	c	0	c	1	d	1	17	4	5	5	5
TB060	c	0	b	0	c	0	c	0	c	1	d	1	10	5	5	5	5
TB066	a	1	a	1	d	1	c	0	c	1	d	1	17	4	4	4	4
PA109	d	0	b	0	c	0	a	0	b	0	d	1	8	1	1	3	2
PA105	c	0	b	0	c	0	d	1	b	0	d	1	12	3	5	4	5
PA107	a	1	b	0	d	1	b	0	d	0	a	0	10	2	3	3	3
PA101	a	1	b	0	c	0	b	0	c	1	d	1	16	4	5	2	4
PA111	d	0	b	0	c	0	b	0	b	0	d	1	11	5	4	4	5
PA113	d	0	b	0	b	0	b	0	d	0	d	1	4	4	4	3	4
PA125	b	0	b	0	c	0	d	1	b	0	d	1	14	2	2	2	2
PA123	a	1	a	1	d	1	d	1	d	0	d	1	13	2	4	4	5
PA115	c	0	b	0	c	0	d	1	d	0	d	1	11	3	2	3	2
PA117	d	0	a	1	c	0	b	0	b	0	d	1	10	2	3	2	5
PA103	d	0	b	0	b	0	b	0	d	0	d	1	8	4	4	3	3
PA121	b	0	b	0	d	1	d	1	c	1	a	0	14	5	4	3	5
PA119	a	1	b	0	c	0	a	0	d	0	d	1	13	4	2	2	2
PA102	d	0	d	0	c	0	d	1	c	1	d	1	9	4	4	4	3
PA108	a	1	b	0	c	0	d	1	b	0	d	1	12	1	4	4	1
PA104	a	1	d	0	c	0	b	0	b	0	d	1	11	2	4	4	3
PA120	b	0	a	1	c	0	c	0	c	1	a	0	9	4	4	4	3
PA118	b	0	a	1	c	0	d	1	c	1	d	1	10	5	5	5	2
PA110	a	1	a	1	c	0	d	1	b	0	d	1	9	4	4	4	3
PA112	b	0	d	0	c	0	d	1	c	1	d	1	12	1	4	4	1
PA114	b	0	b	0	c	0	d	1	b	0	d	1	9	4	4	4	3
PA108	a	1	a	1	c	0	c	0	b	0	d	1	13	2	4	4	3
PA122	d	0	a	1	c	0	b	0	c	1	a	0	6	5	5	5	2
PA116	a	1	b	0	c	0	d	1	b	0	d	1	8	1	4	4	3
PA122	d	0	d	0	d	1	b	0	d	0	d	1	13	2	4	2	2
PB141	a	1	a	1	c	0	b	0	b	0	d	1	15	5	5	5	5
PB145	a	1	d	0	c	0	c	0	c	1	d	1	13	5	5	5	5
PB143	a	1	a	1	d	1	d	1	c	1	d	1	18	5	5	4	5

ID	type	jargon	length	gender	age	ethnic	educate	r1	r1score	r2	r2score	r3	r3score	r4	r4score	r5	r5score	r6
PB157	2	2	1	1	57	4	3	d	1	d	1	d	1	c	1	d	1	b
PB149	2	2	1	1	25	4	2	d	1	d	1	d	1	c	1	d	1	b
PB151	2	2	1	1	33	4	4	d	1	d	1	d	1	c	1	d	1	b
PB155	2	2	1	1	45	1	3	d	1	d	1	d	1	b	0	d	1	d
PB159	2	2	1	2	30	4	4	d	1	d	1	d	1	c	1	d	1	b
PB147	2	2	1	1	33	4	4	d	1	d	1	d	1	c	1	d	1	b
PB159	2	2	1	2	25	4	4	d	1	d	1	a	0	c	1	d	1	b
PB144	2	2	2	1	-9	4	5	d	1	d	1	c	0	c	1	d	1	b
PB146	2	2	2	1	-9	5	5	d	1	b	0	a	0	c	1	-9	0	b
PB142	2	2	2	1	53	4	5	d	1	d	1	d	1	c	1	d	1	b
PB158	2	2	2	1	44	4	4	d	1	d	1	d	1	c	1	d	1	b
PB168	2	2	2	2	60	4	3	d	1	d	1	d	1	a	0	d	1	d
PB166	2	2	2	1	37	4	4	a	0	d	1	c	0	b	0	d	1	a
PB160	2	2	2	1	36	4	4	d	1	b	0	c	0	a	0	d	1	d
PB162	2	2	2	1	34	4	4	d	1	d	1	d	1	b	0	d	1	b
PB154	2	2	2	2	47	3	3	d	1	d	1	a	0	b	0	d	1	a
PB156	2	2	2	1	44	1	3	a	0	d	1	d	1	c	1	d	1	b
PB164	2	2	2	1	22	4	2	d	1	d	1	d	1	c	1	d	1	b
PB170	2	2	2	2	48	4	4	d	1	-9	0	c	0	b	0	d	1	b
PA127	2	1	1	2	44	4	3	a	0	d	1	d	1	b	0	d	1	d
PB161	2	2	1	1	42	4	3	d	1	d	1	d	1	c	1	d	1	b

ID	r6score	r7	r7score	r8	r8score	r9	r9score	r10	r10score	r11	r11score	r12	r12score	r13	r13score	r14	r14score
PB157	1	d	1	c	1	a	1	c	1	a	1	d	0	b	1	a	0
PB149	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	a	0
PB151	1	d	1	c	1	d	0	c	1	b	0	c	1	b	1	b	1
PB155	0	d	1	c	1	a	1	c	1	b	0	d	0	b	1	b	1
PB159	1	d	1	b	0	d	0	c	1	a	1	c	1	a	0	b	1
PB147	1	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
PB159	1	d	1	c	1	d	0	c	1	c	0	c	1	b	1	b	1
PB144	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
PB146	1	-9	0	c	1	d	0	c	1	b	0	-9	0	b	1	b	1
PB142	1	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
PB158	1	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
PB188	0	d	1	a	0	a	1	d	0	a	1	c	1	c	0	b	1
PB186	0	d	1	b	0	b	0	d	0	c	0	c	1	a	0	b	1
PB180	0	d	1	c	1	a	1	c	1	a	1	c	1	b	1	b	1
PB162	1	d	1	c	1	c	0	c	1	a	1	c	1	b	1	b	1
PB154	0	d	1	c	1	d	0	d	0	c	0	c	1	b	1	b	1
PB156	1	d	1	b	0	a	1	c	1	a	1	c	1	c	0	b	1
PB164	1	d	1	c	1	d	0	c	1	a	1	c	1	b	1	b	1
PB170	1	d	1	a	0	b	0	c	1	b	0	c	1	d	0	b	1
PA127	0	d	1	c	1	d	1	c	1	a	1	b	0	d	0	a	0
PB161	1	d	1	c	1	d	1	c	1	b	0	c	1	b	1	b	1

ID	r15	r15score	r16	r16score	r17	r17score	r18	r18score	r19	r19score	r20	r20score	rtotal	p1	p2	p3	p4
PB157	a	1	b	0	c	0	d	1	c	1	a	0	15	5	5	4	5
PB149	a	1	b	0	c	0	d	1	c	1	a	0	16	5	5	5	5
PB151	a	1	b	0	c	0	c	0	c	1	d	1	15	5	5	5	5
PB155	a	1	d	0	c	0	d	1	c	1	d	1	14	5	5	4	5
PB159	a	1	a	1	d	1	d	1	b	0	d	1	16	5	5	5	5
PB147	a	1	a	1	c	0	d	1	c	1	d	1	18	5	5	4	5
PB159	a	1	a	1	d	1	d	1	b	0	d	1	16	4	4	4	4
PB144	a	1	a	1	d	1	d	1	c	1	d	1	19	3	5	5	3
PB146	a	1	-9	0	c	0	-9	0	-9	0	d	1	9	3	3	3	4
PB142	a	1	d	0	c	0	d	1	c	1	d	1	18	5	5	5	5
PB158	a	1	a	1	d	1	d	1	d	0	d	1	18	4	5	4	5
PB168	a	1	a	1	c	0	d	1	c	1	a	0	13	4	4	5	4
PB166	a	1	d	0	c	0	d	1	c	1	d	1	9	5	5	5	5
PB160	a	1	a	1	c	0	d	1	c	1	d	1	15	5	5	5	5
PB162	a	1	a	1	c	0	d	1	c	1	d	1	17	4	5	5	5
PB154	a	1	d	0	d	1	d	1	d	0	a	0	11	3	5	4	4
PB156	a	1	d	0	c	0	d	1	c	1	d	1	15	5	3	4	5
PB164	a	1	a	1	d	1	d	1	c	1	d	1	19	4	4	5	4
PB170	a	1	a	1	d	1	d	1	c	1	d	1	13	5	5	3	5
PA127	a	1	b	0	c	0	b	0	d	0	a	0	9	3	4	3	3
PB161	a	1	b	0	d	1	b	0	c	1	d	1	17	5	5	5	1

ID	p5	p6	p7	p8	p9	p10	p11	p12	ptotal	c1	c2	c3	c4	c5	c6	c7	c8	c9	validity
PB157	5	5	5	5	4	5	5	5	58	1	1	2	1	1	1	2	1	1	1
PB149	5	5	5	5	5	5	5	5	60	1	1	1	1	1	1	1	1	1	1
PB151	5	5	5	5	5	3	5	4	57	1	1	1	1	1	1	1	1	1	1
PB155	4	1	5	5	4	5	5	5	53	1	1	1	1	1	1	1	1	1	1
PB159	5	5	5	5	4	5	5	5	59	2	2	2	2	2	2	2	2	2	1
PB147	4	5	5	5	4	5	5	5	57	1	1	2	1	1	1	2	1	1	1
PB159	4	3	3	4	2	4	2	3	41	1	1	2	1	1	2	2	1	1	2
PB144	4	3	3	3	4	5	4	4	46	1	1	2	1	1	1	2	1	1	2
PB146	3	4	5	5	3	5	3	3	44	1	2	2	2	2	2	2	2	2	1
PB142	5	5	5	5	5	5	5	5	60	2	2	2	2	2	2	2	2	2	1
PB158	2	3	5	3	5	5	5	4	50	1	1	2	1	1	2	2	2	2	1
PB168	3	3	3	5	4	5	4	4	48	1	1	1	1	1	1	1	1	1	1
PB166	5	5	5	5	5	5	5	5	60	2	2	2	2	2	2	2	2	2	1
PB160	5	5	5	5	5	5	5	5	60	1	2	2	2	2	2	2	2	2	1
PB162	5	5	5	5	5	5	5	5	59	2	2	2	2	2	2	2	2	2	1
PB154	4	2	2	2	4	4	3	4	41	1	1	2	1	1	2	2	2	2	1
PB156	3	3	5	3	3	5	4	3	46	2	2	2	2	2	2	2	2	2	2
PB164	4	4	5	4	4	5	5	4	52	1	1	2	1	1	1	2	1	1	1
PB170	5	3	5	5	5	5	5	5	56	1	1	1	1	1	1	1	1	1	1
PA127	4	2	2	3	4	1	3	5	37	2	2	2	2	1	2	2	2	2	2
PB161	5	4	1	1	5	1	5	5	43	1	1	1	1	2	1	1	1	1	2

Curriculum Vita

Leah B. Bucknavage

52 School Brook Lane, Vernon, CT 06066

Phone: (860) 335-2904

Email: lbb133@psu.edu

Education:

- Doctoral Candidate School Psychology – present, anticipated August, 2007;
Pennsylvania State University, University Park, PA
- M.S. School Psychology – August 2005; Pennsylvania State University, University
Park, PA
- B.A. Psychology – May 2002; Providence College, Providence, RI
Graduate Magna Cum Laude

Certification:

Certified School Psychologist - Pennsylvania (2006); Massachusetts (2007)

Work Experience:

- School Psychology Intern*, Ossining Union Free School District, Ossining, NY (2006-present)
- Consultant*, Bellefonte Area Public Schools, Bellefonte, PA (Spring 2006)
- Student Supervisor*, Pennsylvania State University CEDAR clinic (2005-2006)
- School Psychology Clinician*, Pennsylvania State University CEDAR clinic (2003-2005)
- Teaching Assistant*, Department of HDFS – Pennsylvania State University (2005-2006)
- Teaching Assistant*, Individual Psychological Examination - Pennsylvania State University (Spring 2005)
- Research Assistant*, Dialogic reading intervention – Pennsylvania State University (Spring 2005)
- School Psychology Program Test Librarian* – Pennsylvania State University (2003-2005)
- Research Assistant*, School Psychology Program – Pennsylvania State University (2002–2003)

Publications and Presentations:

- Bucknavage, L. B. (2005). Attention Deficit/Hyperactivity Disorder (ADHD). In J. T. Neisworth & P. S. Wolfe (Eds.), *The autism encyclopedia* (p. 17). Baltimore: Brookes.
- Bucknavage, L. B. (2005). Checklist for Autism in Toddlers (CHAT). In J. T. Neisworth & P. S. Wolfe (Eds.), *The autism encyclopedia* (p. 268). Baltimore: Brookes.
- Bucknavage, L., & Neuhard, R. (2003, March). *Psychometric properties of the Mountain Shadows Phonemic Awareness Scale in central Pennsylvania kindergarteners*. Poster session presented at the 23rd annual spring conference of the Association of School Psychologists of Pennsylvania, Harrisburg, PA.
- Bucknavage, L. B., & Schaefer, B. A. (2006, March). *Psychoeducational report jargon: Impact on consumer preference, comprehension, and recall*. Poster session accepted for presentation at the 2006 National Association of School Psychologists Annual Convention, Anaheim, CA.
- Bucknavage, L. B., & Worrell, F. C. (2004, April). *Academically talented students' participation in extracurricular activities*. Paper presented at the 2004 annual meeting of the American Educational Research Association.
- Bucknavage, L. B., & Worrell, F. C. (2005). Academically talented students' participation in extracurricular activities. *Journal of Secondary Gifted Education*, 16, 74-86.
- Watkins, M. W., Kuterbach, J. M., Morgan, R. J., FitzGerald, J. L., Neuhard, R. M., Arthur, A. G., & Bucknavage, L.B. (2004). Structural validity of the WAIS-III among postsecondary students. *Journal of Postsecondary Education and Disability*, 17, 105-113.
- Watkins, M. W., Neuhard, R. M., Bucknavage, L. B., & Runge, T. J. (2003). Assessment of phonemic awareness skills: A screening measure for classroom use. *Pennsylvania Educational Leadership*, 23(1), 49-53.
- Worrell, F. C., & Bucknavage, L. B. (2004, April). *Participation in extracurricular activities by students attending prestige schools in Trinidad*. Paper presented at the 2004 annual meeting of the American Educational Research Association.
- Worrell, F. C., & Bucknavage, L. B. (2004). Participation in extracurricular activities by students attending assisted and prestige schools in Trinidad. *Caribbean Curriculum*, 11, 129-147.