

1-1-2011

# Item fairness of the nonverbal subtests of the Stanford-Binet Intelligence Test, Fifth Edition, in a Latina

Simone C. Harlow  
*George Fox University*

This research is a product of the Doctor of Psychology (PsyD) program at George Fox University. [Find out more](#) about the program.

---

## Recommended Citation

Harlow, Simone C., "Item fairness of the nonverbal subtests of the Stanford-Binet Intelligence Test, Fifth Edition, in a Latina" (2011). *Doctor of Psychology (PsyD)*. Paper 103.  
<http://digitalcommons.georgefox.edu/psyd/103>

This Dissertation is brought to you for free and open access by the Psychology at Digital Commons @ George Fox University. It has been accepted for inclusion in Doctor of Psychology (PsyD) by an authorized administrator of Digital Commons @ George Fox University.

Item Fairness of the Nonverbal Subtests of the Stanford-Binet  
Intelligence Test, Fifth Edition, in a Latina/o Sample

by

Simone C. Harlow

Presented to the Faculty of the  
Graduate Department of Clinical Psychology

George Fox University

in partial fulfillment

of the requirements for the degree of

Doctor of Psychology

in Clinical Psychology

Newberg, Oregon

August 18, 2010

Item Fairness of the Nonverbal Subtests of the Stanford-Binet Intelligence Test, Fifth  
Edition, in a Latina/o Sample

Simone C. Harlow, M.A.

has been approved

at the

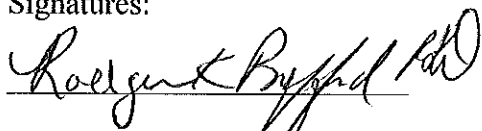
Graduate School of Clinical Psychology

George Fox University

As a Dissertation for the Psy.D. Degree

Approval

Signatures:

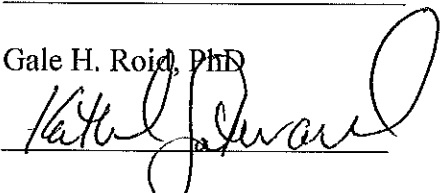


Rodger Bufford, PhD, Chair

Members:



Gale H. Roid, PhD



Kathleen A. Gathercoal, PhD

Date: 8-18-10

Item Fairness of the Nonverbal Subtests of the Stanford-Binet  
Intelligence Test, Fifth Edition, in a Latina/o Sample

Simone C. Harlow

Graduate Department of Clinical Psychology at

George Fox University

Newberg, Oregon

**Abstract**

Every widely used psychological assessment instrument is under scrutiny in terms of cultural fairness. The expectation of the *reduced-language (Nonverbal)* section of the Stanford-Binet Intelligence Scales, Fifth Edition (SB5; Roid, 2003) is that language ought not to be a modifying factor in terms of final score. The purpose of the present study was to explore the effects of acculturation on performance on the Nonverbal subtests of this commonly used standardized measure of intellectual functioning in three groups: Latinas/os living in the U.S. four years or less, Latinas/os living in the U.S. five years or more, and Caucasian/White Non-Hispanics. The study explored whether there was evidence of differential item function (DIF) on SB5 nonverbal subtests for these groups. An analysis of variance was the procedure used for testing the null hypothesis, that the means of the three populations would be equal. It was expected that scores for each of the participant groups would be normally distributed. Group differences that were statistically significant at the .01 level were examined for potential

unfairness. This study employed archival data from the sample of the Nonverbal subtests of the Standardization edition of the SB5. The stratification variables were age, sex, and race/ethnicity, matched to census percentages. Participants were ages 4-17 years and included 17 Latinas/os living in the U.S. four years or less, 20 Latinas/os living in the U.S. five years or more, and 100 Caucasian/White Non-Hispanics. Out of the 223 analyses of variance, two items were significant at the .01 level, and one was significant at the .05 level. No significant differences were found on testlet scores, factor scores, or domain scores. These limited findings of DIF favor each group on different items, balancing one another out and thus nullifying the overall bias hypothesis. The results of this study suggest that there is little evidence of item bias on the SB5 Nonverbal scale between children and adolescents who are from a Latin country regardless of time in U.S. and Caucasian/White Non-Hispanic children with comparable ages, genders, and socioeconomic status taken from the normative sample of the Standardization edition of the SB5.

## Table of Contents

Approval.....	ii
Abstract.....	iii
List of Tables.....	vii
List of Figures.....	viii
Chapter 1: Introduction.....	1
Norming Issues.....	2
Comparisons of Abilities among Cultural Groups.....	3
Need for Cultural Fairness.....	5
Criticisms.....	7
Hypothesis of the Present Study.....	8
Chapter 2: Method.....	9
Participants.....	9
Instruments.....	10
Procedure.....	11
Data Analysis.....	13
Chapter 3: Results.....	14
Chapter 4: Discussion.....	18
Result Implications and Application of the SB5.....	19
Limitations of the Study.....	20
Possibilities for Future Investigations.....	21
Concluding Remarks.....	21

References ..... 22

Appendix A Curriculum Vita ..... 26

**List of Tables**

Table 1 Three Groups ANOVA ..... 15



**List of Figures**

Figure 1 Structural Organization of the Nonverbal Scales of the SB5..... 11

## Chapter 1

### Introduction

Standardized intelligence and achievement testing has been widely used, including academic settings and in single-session and long-term psychological treatment processes, in order to provide clinicians with a clearer understanding of the client's intellectual strengths and weaknesses. These tests have been valued in the identification of appropriate educational and treatment options. With more measures being developed each year, standardizing them has become increasingly important in this process. Standardized assessment facilitates accurate predictions of which services individuals require, especially in educational placement for children.

In school settings children are tested in order that psychologists and educators might determine the most appropriate placement within the school system. Children are also tested to provide insight into approaches for systems intervention and instruction. According to the Council of State Directors of Programs for the Gifted and the National Association for Gifted Children in 2003, standardized cognitive intellectual instruments are primarily used in determining which children belong in the gifted and special education programs. Furthermore, results of intelligence and achievement measurements help to identify strengths and weaknesses for children in the average population.

## Norming Issues

Every widely used psychological assessment instrument is under scrutiny by the American Educational Research Association, the American Psychological Association (APA), and the National Council on Measurement in Education, and each must abide by certain rules and regulations; the three organizations collaborated in publishing standards for educational and psychological testing (1999). Of foremost importance in the development of any psychological instrument is the obtaining of representative norms. Reliable norms allow the test administrator to compare the individual's score on constructs being tested to a large pool of persons who are presumed to make up the majority norm or average. The purpose of any assessment is to be able to rate a person's performance in comparison to his or her peers, and standardized norms are central to the validity of such claims. Most test developers employ a representative sample to judge the percentages of norms that must be obtained. According to the U.S. Census Bureau, in 2000 the majority of the U.S. population was made up of a Caucasian/White Non-Hispanic population. As various ethnic groups continue to grow in numbers within the U.S., the need for culturally sensitive mental health and measurement services will continue to increase.

As the number of individuals who come from other cultures and who speak other languages increases in the population of the United States, the need for culturally specific norms is increased. According to the U.S. Census Bureau in 2000, Latinas/os were the largest minority ethnic group, making up 12.5% of the U.S. population. Despite the continued population growth, Latinas/os make up a small percentage of the norms group on most cognitive intellectual tests.

The greatest area of complication in creating a test is making it applicable and useful to a diverse population. Standardized achievement and ability tests, in general, are made by the U.S.

majority population, utilizing majority population norms. As norms may only be validly applied to individuals represented, there will most likely always be a number of diverse groups to which these generalizations and comparisons will not apply. Many of the norms gathered by test developers are insufficient to cover the wide array of cultural diversity and are therefore not useful for members of diverse groups. Such limitations notwithstanding, these are the tests that are being used.

### **Comparisons of Abilities among Cultural Groups**

Various cultural groups have been found to have qualitatively different cognitive intellectual assessment results as compared to the Caucasian/White Non-Hispanic group. There has been a wide array of research as to why Latinas/os and other cultural groups perform qualitatively differently on standardized tests of intelligence. Administrator and interpreter bias, fluency with the English language, acculturation, socio-economic status, and country of origin are the facts that may each play a significant role in the outcome of results (Prieto, McNeill, Walls, & Gomez, 2001). Joseph and Ford (2006) recommended that the process of assessing culturally diverse children for gifted and talented educational programming “begin[s] with the hypothesis that the individual’s difficulties are not intrinsic in nature, but rather that they are more likely attributable to external or environmental factors” (p. 47). Another hypothesis concerning causality proposed that the cognitive styles developed by children in other cultures differed from the predominant style employed in American schools. However, in a study conducted by Clark and Halford, psychometric intelligence “was clearly a more powerful predictor of the effects of culture and location on school achievement than was cognitive style” (1983, p. 279).

Some expectations have been that different cultures value different skills wherein unique patterns of abilities are developed. Results of a study conducted by Chen, Braithwaite, and Huang “appear[ed] to support the generality of perceptions of the structure of intelligence across Australian and Chinese cultures” (1982, p. 155). A study of the acculturation and cognitive performances of first- and second-generation migrant children in the Netherlands found that “in the first generation the process of learning the foreign language and culture may be more determined by individual differences in intellectual ability and motivation to adjust, whereas in the second generation these factors have lost much salience” (Van de Vijver, Lorenz, & Feltzer, 1999, p. 160). It is understood that a person’s self-concept and locus of control are often related to his or her perception of his or her intelligence. In a study done by Monzo and Rueda on the sociocultural perspective on acculturation, it was found that “Anglo American and Mexican-American children do not differ in the extent to which they attribute academic outcomes to internal and external causes even though they differ in school achievement and academic experiences” (2006, p. 94). Why then have there been consistent findings that Latinas/os and other bilingual cultural groups perform lower on standardized intelligence measures?

On a project investigating how culture may relate to cognitive ability testing, Verney, Granholm, Marshall, Malcarue, and Saccuzzo (2005) utilized information processing and psychophysiological measures to investigate the correlation of scores on several cognitive ability instruments. They concluded that “these data indicate equal cognitive ability in the Mexican-American and Caucasian American samples on the theoretically more culture-fair information processing and psychophysiological measures but lower WAIS-R FSIQ test scores in Mexican-Americans, possibly due to the cultural influences embedded in this test” (p. 315).

Gonzalez and Roll (1985) found that the lower verbal performance of Mexican Americans adults on measures of intelligence contributed significantly to their lower overall scores. They further stated that with the removal of the verbal sections, the scores would have been no different from the scores of Anglo-Americans. They proposed “Mexican-Americans, however, are no different from Anglos in nonverbal (analytic) intellectual abilities regardless of their level of acculturation” (p. 201).

One of the primary factors involved in the overall lower scores for Mexican-American children has been found to be acculturation. García-Vázquez and Ehly (1994) found that “with bilingual and Mexican children, the verbal subtests can be viewed as a measure of their adaptation to school demands” (p. 51). “Further analysis of the Acculturation Quick Screen items indicated that language skills were most influential. Apparently as students adapt to the school environment, competence in the language of the test influences performance on measures of problem-solving skills” (p. 51). Each individual achievement and cognitive ability instrument must be assessed for cultural bias and cultural loading both in the development of the measure as well as following its completion.

### **Need for Cultural Fairness**

Of foremost importance in the assessment of children for educational purposes is that psychologists and educators choose instruments that are culturally sensitive and appropriate. APA Guidelines to show evidence of fairness to all groups should also be followed. As language is the primary cultural barrier, the extensive use of language in most intellectual assessment instruments is the most obvious difficulty for many ethnically and linguistically diverse children. García-Vázquez and Ehly (1994) reported a study where the results “suggest that enhancement

of problem-solving skills as measured in the schools does not have to occur at the expense of a student's culture or language. For Mexican-American children, results on verbal subtests may reveal little more than extent of acculturation to school demands" (p. 502). Takano and Noda (1993) found that "the use of an unskilled foreign language should be accompanied by a temporary decline in thinking ability" as measured on a cognitive intellectual ability instrument (p. 445).

One major strategy that test developers have used to make standardized testing more culturally sensitive, fair, and applicable is by the use of nonverbal testing. This shift is thought to minimize the large gulf created by the language barrier. Half of the Stanford-Binet Intelligence Scales, Fifth Edition (SB5; Roid, 2003) test battery is made up of a *reduced-language (Nonverbal)* section. These subtests are made up of items measuring Nonverbal Fluid Reasoning, Knowledge, Quantitative Reasoning, Visual-Spatial Processing, and Working Memory (Roid & Pomplun, 2005). Thus the Nonverbal portion of the SB5 appears to be a good candidate for a culturally fair assessment of intellectual abilities in a Latina/o sample.

As the purpose of cognitive intellectual assessment with children has been for educational placement decisions, one must take care to avoid underestimating culturally and ethnically diverse children's intellectual functioning and referring them to special educational programs. According to Prieto et al. (2001), "Research that seeks to identify and confirm empirical correlates of scores on traditional tests for Latinas/os is a critical need and may greatly assist in correcting the tendency for these tests to overpathologize Latinas/os" (p. 45). In such studies, researchers are adding to the data on specific tests, such as the SB5, in order to inform test users and the public. There is also a hope that their findings may shed light on specific types of test

items that may cause test bias. According to Kim, Mansfield, and O'Donnell (2002), "As educational systems are exported to different locations around the world, questioning the values behind educational philosophies deserves heightened attention" (p. 360). With these same concerns in mind, this study was undertaken.

Test bias, or more precisely stated, differential item functioning (DIF), is a difference in response patterns between groups that may or may not indicate bias. Such patterns often favor majority group members, but can sometimes favor the minority ethnic group.

### **Criticisms of the Nonverbal Item Solution**

There are some who claim that neither cognitive ability nor educational achievement tests are biased against minority groups (e.g., Hunter & Schmidt, 2000). Findings from several studies have revealed that few, if any, items in standardized intelligence tests are biased in favor of one group or another. Suzuki and Valencia (1997) pointed out, for example, that in the examination of scores on any intellectual measurement, "within-group differences exceed between-group differences" (p. 1111). This is in fact, the hypothesis of the current study as it pertains to Nonverbal scores.

Quiroga, Lemons-Britton, Mostafapour, Abbott, and Berninger's (2002) study of ESL students on intellectual measures found that "IQ and oral language proficiency in either first or second language did not uniquely predict beginning word reading in English or Spanish-speaking ESL students" (p. 104). Some criticisms of current practices in standardized assessment are that even with the removal of verbal subtests, there may still be other culturally loaded variables besides language (Paniagua, 2005). Many claim that biases besides language in psychological instruments continue to exist, such as the use of culturally loaded pictures.



According to Dana (2000), difficulties associated with the employment of psychological instruments with individuals from diverse cultural groups include the effects of culture-bound social constructs, language concerns, and administrator and test interpreter bias. Gopaul-McNicol and Armour-Thomas (2002) suggested four strategies that should be used to alter an intelligence assessment for a person of a Caucasian/White Non-Hispanic background: suspending time, contextualization, paper and pencil, and test-teach-retest.

### **Hypothesis of the Present Study**

The purpose of the present study is to explore the effects of acculturation on performance on the Nonverbal subtests of the SB5, a commonly used standardized measure of intellectual functioning, in three groups: Latinas/os living in the U.S. four years or less, Latinas/os living in the U.S. five years or more, and Caucasian/White Non-Hispanics. The study explores whether there is evidence of DIF on SB5 Nonverbal tests. Does greater acculturation, measured by years of U.S. residence, make a difference? What differences exist between groups when one is more acculturated than another?

Further, does this comparison of the scores of the three sample populations provide evidence that the SB5 cannot be used as a culture-fair instrument for assessing the intellectual functioning of Latina/o children in the U.S.? The null hypothesis is that there are no significant effects of acculturation on performance on the Nonverbal sections of the SB5. Specifically, no significant differences in item response characteristics between Latinas/os living in the U.S. four years or less, Latinas/os living in the U.S. five years or more, and Caucasian/White Non-Hispanics are predicted to exist.

## Chapter 2

### Method

This study employed data from the standardization sample of the Nonverbal subtests of the Standardization edition of the SB5. This edition is a longer version of the final published edition and contains items which were not included in the final edition of the SB5. Riverside Publishing Company, the publisher of the SB5, provided the data with permission.

### Participants

Participants for this study were taken from a nationally-representative sample based on the 2001 U.S. Census. The stratification variables were age, sex, and race/ethnicity, matched to census percentages. Total number of participants included 137 of the original 4,800 participants who were tested; ages ranged between 4-17 years to cover the main range of school-related testing. Among participants, a control sample of matching cases from the SB5 normative sample, made up of 100 Caucasian/White Non-Hispanic cases, was included in this total. Seventeen participants included individuals whose native language is Spanish and are from a Latin country, who had been in the U.S. four years or less, and who were at the time of testing enrolled in English as a Second Language (ESL) or English Language Learner (ELL) programs. Twenty participants included individuals whose native language is Spanish, are from a Latin country, and who have been in the U.S. five or more years, and who were at the time of testing enrolled in ESL/ELL programs. Demographic percentages of the Latina/o sample were used to select the

comparison sample of Caucasian/White from the SB5 normative sample with participants having been matched for gender age, and parental education level. Data obtained included demographic data, scored item responses, total testlet scores, total factor scores, and total domain scores.

### **Instruments**

This study employed archival data from the SB5, an individually-administered assessment of intelligence and cognitive abilities. The SB5 was developed in order to update and expand on the Stanford-Binet Intelligence Scales, Fourth Edition (SB4). The revision was undertaken for several reasons. First, the revision extended the age range on both ends from 2 years, 2 months to 23 years, 11 months on the SB4 to 2 years, 0 months to 85 years + on the SB5.

The update sought to retain the integrity of the SB4 by retaining and modifying as many of the original test items as possible. Some items remained the same, or were divided into several components. Others simply used materials that are more modern, and therefore may be more appealing to contemporary children than the prior edition. The SB5 includes a new Nonverbal subtest, Object-Series/Matrices, which utilizes a routing strategy (similar to the SB5 Vocabulary subtest) that enables examiners to tailor the remainder of the test to the functional level of examinees. In addition, the SB5 measures five cognitive factors – Fluid Reasoning, Knowledge, Quantitative Reasoning, Visual-Spatial Processing, and Working Memory – in both Nonverbal and Verbal domains (Roid & Pomplun, 2005). New composite scores with a mean of 100 and a standard deviation of 15 were added and the SB5 also includes a Full Scale IQ (FSIQ), Nonverbal IQ (NVIQ), Verbal IQ (VIQ), and five factor index scores.

Specifically, the SB5 Nonverbal subtests include: Nonverbal Fluid Reasoning, Nonverbal Knowledge, Nonverbal Quantitative Reasoning, Nonverbal Visual-Spatial Processing, and Nonverbal Working Memory. The SB5 Verbal subtests include corresponding verbal tests in each of these five domains. Figure 1 shows the structural organization of the SB5. Internal consistency reliability using the split-half procedure for subtests, and composite reliabilities for the IQ and Factor Indexes yielded a range from .84 to .98 (Roid & Pomplun, 2005).



Figure 1. Structural Organization of the Nonverbal Scales of the SB5.

**Procedure**

Data collection for the standardization of the SB5 was done by a large, cooperative group of approximately 400 recruited field examiners. Examiners were either professionals or supervised by professionals and represented a wide variety of psychology- and education-related

fields. These examiners represented four census regions of the U.S. including: Northeast, Midwest, South, and West. Riverside Publishing Company compensated these examiners for participation in regional training sessions that were held in the spring of 2002 in major cities in each regional area (Providence, RI; Chicago, IL; Atlanta, GA; and San Francisco, CA). Training conducted during these meetings included instruction in proper recruitment and informed consent procedures. All phases of subtest administration, data recording, and information on the stratified sample were presented. Test materials were distributed and supervised practice sessions were held. Over a 12-month period during 2001 and 2002 examiners recruited and tested participants. Riverside Publishing Company provided each participant with a \$10 gift card in the mail in gratitude for participation. A \$5 check was sent in the mail by the same to the organization (e.g., school, club, etc.) from which the participant was recruited. Protocols were then sent to Riverside Publishing Company for an extensive series of quality control checks and data analysis. Updates and feedback on testing procedures were provided on a regular basis to all examiners.

### **Data Analysis**

The purpose of this study was to determine, statistically, whether evidence of DIF exists between children and adolescents who are from a Latin country and had lived in the U.S. four years or less, those who have lived in the U.S. five or more years, and Caucasian/White Non - Hispanic children with comparable ages and parental education taken from the normative sample for the SB5. Statistical studies of DIF were conducted only on the SB5 Nonverbal subscales. A one-way Analysis of Variance (ANOVA) was used to analyze these data to test for differences among the means of the three participant groups. The variance between these sample means was

calculated and compared to the amount of variance expected due to sampling error. If the former variance exceeds the latter variance by a large enough margin, we conclude that the conditions in the experiment were not all identical. We expected scores for each of the participant groups to be normally distributed. Group differences that were statistically significant at the .01 level were examined for potential unfairness. Given the relatively large sample size, we were conservative at the .01 level so that border-line effects are not labeled as unfairness. Finally, the direction of the means differences was inspected to determine whether the differences indicate favorability to either Caucasian Non-Hispanic Americans or to Latinas/os.

## Chapter 3

### Results

Two hundred and twenty-three one-way ANOVAs were run to explore differences between Latinas/os living in the U.S. four years or less, Latinas/os living in the U.S. five years or more, and Caucasian/White Non-Hispanics on each of the 193 Nonverbal items, testlet scores, factor scores, and domain scores. Given the number of analyses run, only the results for those items where DIF was found are reported below. Out of the 223 ANOVAs, 2 were significant at the .01 level, and 1 was significant at the .05 level. See Table 1.

Significant differences found were on items 6pa7,  $F(2,114) = 3.526, p < .05$ ; 7bs5,  $F(2,112) = 5.021, p < .01$ ; and 9bs8,  $F(2,109) = 6.140, p < .01$ . On item 6pa7 post hoc analysis using Tukey's HSD criterion indicated that Latinas/os living in the U.S. five years or more ((Group 2;  $M = .71, SD = .488$ ) scored significantly higher than Latinas/os living in the U.S. four years or less (Group 1;  $M = .11, SD = .333$ ),  $p < .05$ . Neither of these groups were significantly different from Caucasian/White Non-Hispanics (Group 3;  $M = .52, SD = .502$ ).

On item 7bs5 post hoc analysis using Tukey's HSD criterion indicated that Latinas/os living in the U.S. five years or more (Group 2;  $M = .86, SD = .378$ ) scored significantly higher than Latinas/os living in the U.S. four years or less (Group 1;  $M = .11, SD = .333$ ),  $p < .01$ . Caucasian/White Non-Hispanics (Group 3) ( $M = .55, SD = .500$ ) also scored significantly higher than Latinas/os living in the U.S. four years or less (Group 1;  $M = .11, SD = .333$ ),  $p < .05$ .

Table 1

Three Groups ANOVA:

		Sum of Squares	df	Mean Square	F	Sig.
<b>6pa7</b>	Between Groups	1.703	2	.852	3.526	.033
	Within Groups	27.045	112	.241		
	Total	28.748	114			

Tukey HSD

Dependent Variable	(I) three groups	(J) three groups	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
						Lower Bound	Upper Bound
<b>6pa7</b>	1.00	2.00	-.603	.248	.043	-1.34	.13
		3.00	-.404	.171	.052	-.91	.10
	2.00	1.00	.603	.248	.043	-.13	1.34
		3.00	.199	.192	.556	-.37	.77
	3.00	1.00	.404	.171	.052	-.10	.91
		2.00	-.199	.192	.556	-.77	.37

		Sum of Squares	df	Mean Square	F	Sig.
<b>7bs5</b>	Between Groups	2.354	2	1.177	5.021	.008
	Within Groups	25.787	110	.234		
	Total	28.142	112			



Table 1. Three Groups ANOVA (continued)

Tukey HSD							
Dependent Variable	(I) three groups	(J) three groups	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
						Lower Bound	Upper Bound
7bs5	1.00	2.00	-.746*	.244	.008	-1.47	-.02
		3.00	-.435	.169	.030	-.94	.07
	2.00	1.00	.746*	.244	.008	.02	1.47
		3.00	.311	.189	.233	-.25	.87
	3.00	1.00	.435	.169	.030	-.07	.94
		2.00	-.311	.189	.233	-.87	.25
			Sum of Squares	Df	Mean Square	F	Sig.
9bs8	Between Groups		.102	2	.051	6.140	.003
	Within Groups		.889	107	.008		
	Total		.991	109			
Tukey HSD							
Dependent Variable	(I) three groups	(J) three groups	Mean Difference (I-J)	Std. Error	Sig.	99% Confidence Interval	
						Lower Bound	Upper Bound
9bs8	1.00	2.00	.111	.048	.058	-.03	.25
		3.00	.111*	.032	.002	.02	.21
	2.00	1.00	-.111	.048	.058	-.25	.03
		3.00	.000	.038	1.000	-.11	.11
	3.00	1.00	-.111*	.032	.002	-.21	-.02
		2.00	.000	.038	1.000	-.11	.11

*Note.* The following are statistically significant: 6pa7 (Block 6 Picture Absurdities Item 7:

Rooster on Nest; .033), 7bs5 (Block 7 Block Span Item 5; .008), and 9bs8 (Block 9 Block Span

Item 8; .003).

On item 9bs8 post hoc analysis using Tukey's HSD criterion indicated that Latinas/os living in the U.S. four years or less (Group 1;  $M = .11$ ,  $SD = .333$ ) scored significantly higher than Caucasian/White Non-Hispanics (Group 3;  $M = .00$ ,  $SD = .000$ ),  $p < .01$ . Neither of these groups were significantly different from Latinas/os living in the U.S. five years or more (Group 2;  $M = .00$ ,  $SD = .000$ ). No significant differences were found on testlet scores, factor scores, or domain scores. Of the three items displaying significant DIF results, two were on the Block Design subtest and one was on the Picture Absurdities subtest involving naming a rooster.

## Chapter 4

### Discussion

The direction of the means differences was inspected to determine whether the differences indicate favorability to either Caucasian/White Non-Hispanic Americans or to Latinas/os. Of the three items displaying DIF, 1 item slightly favored Latinas/os living in the U.S. five years or more (group 2) over Latinas/os living in the U.S. four years or less (group 1). One item significantly favored Latinas/os living in the U.S. five years or more over Latinas/os living in the U.S. four years or less (group 1), and the same item displayed slight DIF favoring Caucasian/White Non-Hispanics (group 3) over Latinas/os living in the U.S. four years or less (group 1). The last item displaying DIF favored Latinas/os living in the U.S. four years or less (group 1) over Caucasian/White Non-Hispanics (group 3). These limited findings of DIF favor each group on different items, balancing one another out and thus nullifying the overall bias hypothesis. The results of this study suggest that there is little evidence of item bias on the SB5 Nonverbal scale between children and adolescents who are from a Latin country and have lived in the U.S. four years or less, those who have lived in the U.S. five or more years, and Caucasian/White Non-Hispanic children with comparable ages, genders, and SES taken from the normative sample of the Standardization edition of the SB5. Results also indicate that the number of items which show bias did not exceed the number expected by chance. Therefore, these items might have shown DIF simply due to statistical chance, and not due item bias. Given

these findings, little difference was found for the present sample in the way individuals of the same ability level but different ethnic and linguistic backgrounds responded to Nonverbal items on the SB5. Language and ethnicity were not modifying factors in terms of final score on the Nonverbal section of the SB5.

### **Result Implications and Application of the SB5**

Cognitive-intellectual assessments are used with school-aged children and adolescents in order to determine services, gifted placements, and systems interventions (IEP). Although Caucasian/White Non-Hispanics currently make up the majority of the population, other ethnic and linguistic populations increase yearly, therefore culturally-sensitive mental health services are expected to increase as well. The results of this study suggest that the test items and materials making up the Nonverbal section of the SB5 effectively minimize linguistic and ethnic bias in the populations studied. There was little, if any, apparent bias at the item, testlet, or domain level toward Caucasian/White Non-Hispanics and Latinas/os, regardless of the acculturation level (as defined by the number of years lived in the country). The results are promising in regards to the use of Nonverbal section of this measure with Latina/o children. The results of the present study are consistent with previous studies which claimed that neither cognitive-ability nor educational-achievement tests are based against minority groups (Hunter & Schmidt, 2000). Furthermore, Suzuki and Valencia (1997) pointed out that in the examination of scores on any intellectual measurement, “within-group differences exceed between-group differences” (p. 1111). Specifically, the present findings suggest that in the development of the SB5 Nonverbal scales Roid and his colleagues (Roid, 2003; Roid & Pomplun, 2005) have created a set of scales that show little or no evidence of DIF for Latina/o participants. The SB5 appears to have

satisfactorily addressed concerns about culture fairness in the development of the Nonverbal scales, at least for this Latina/o sample (García-Vázquez & Ehly, 1994; Kim, Mansfield, & O'Donnell, 2002; Prieto et al., 2001).

This research was conducted with the standardization edition of the SB5, though it should be noted that all of the 3 items found to have DIF were included in the final edition. As there were no more items favoring Caucasian/White Non-Hispanic children than Latina/o children, the total Nonverbal score of an individual child would not be negatively affected by his or her native language and Latina/o ethnicity. Therefore, it is believed that the SB5 is an appropriate and useful tool in the Nonverbal assessment of children of Caucasian/White or Latina/o ethnicity. These results should only be generalized to Latina/o children who are or were enrolled in ESL/ELL programs, as this was the specific population tested in this study.

### **Limitations of the Study**

A limitation of the study was the small Latina/o sample size which did not allow for distinctions between Latina/o groups. Furthermore the size of the sample may have limited the findings of differential item functioning. The sample was not sensitive to any potential biasing affects for Latina/o students who had recently moved to the US. The original data was collected by trained, experienced school psychologists, clinical psychologists, and educational diagnosticians, and extensive quality control methods were used to monitor the field testing conditions, and to check the accuracy of computer data entry. Nonetheless, the use of archival data is a limitation of this study in that the administrations of the subtests or items were not observed. This author did not know details about the original examiners (e.g., linguistic background or ethnicity) that may have affected the participants' responses. There was a limited

range of acculturation indicators available as no acculturation scale was administered with the SB5 to isolate acculturation directly. As noted, this research was conducted with the standardization edition of the SB5, making generalization of the findings of the published edition of the SB5 somewhat difficult. As all of the items on the published edition of the SB5 were taken from the standardization edition, the argument suggesting that the final edition does not show significant effect due to linguistic or ethnic bias at the item level is well-founded.

### **Possibilities for Future Investigations**

Future investigations of the SB5 and other standardized measures of achievement should focus on the presence of DIF based on other linguistic and ethnic groups. Such studies will help to ensure that these measures maintain appropriate standards for use with individuals from different linguistic and ethnic backgrounds. Studies might also analyze specific Latina/o groups' SB5 Nonverbal scores to provide more nuanced understanding of potential cultural differences. Further analysis of Nonverbal-subtest performance in light of Verbal-subtest performance on the SB5 with the same population would establish English-language ability and potential influence of Nonverbal ability. Further research with the same population might include a specific measure of acculturation.

### **Concluding Remarks**

Careful investigation of the Nonverbal domains, testlets, and items of the standardization edition of the SB5 found very little DIF between 4-17 year-old Caucasian/White Non-Hispanics, Latinas/os who have lived in the U.S. four years or less and are enrolled in ESL/ELL, and Latinas/os who have lived in the U.S. five years or more and are enrolled in ESL/ELL. For the

purposes of the present study, there were no significant effects of acculturation (as measured by years in the U.S.) on performance on the Nonverbal standardized intelligence scales.

### References

- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (1999). *Standards for educational and psychological testing, (3<sup>rd</sup> ed.)* Washington, DC: American Educational Research Association.
- Chen, M. J., Braithwaite, V., & Huang, J. T. (1982). Attributes of intelligent behavior: Perceived relevance and difficulty by Australian and Chinese students. *Journal of Cross-Cultural Psychology, 13*, 139-156.
- Clark, L. A., & Halford, G. S. (1983). Does cognitive style account for cultural differences in scholastic achievement? *Journal of Cross-Cultural Psychology, 14*, 279-296.
- Council of State Directors of Programs for the Gifted and the National Association for Gifted Children. (2003). *State of the states gifted and talented education report, 2001-2002*. Washington, DC: Author.
- Dana, R. H. (2000). *Handbook of cross-cultural and multicultural personality assessment*. Mahwah, NJ: Erlbaum.
- García-Vázquez, E., & Ehly, S. W. (1994). Acculturation and intelligence: Effects of acculturation on problem-solving. *Perceptual and Motor Skills, 78*, 501-502.
- Gonzalez, R. R., & Roll, S. (1985). Relationship between acculturation, cognitive style, and intelligence: A cross-sectional study. *Journal of Cross-Cultural Psychology, 16*, 190-205.
- Gopaul-McNicol, S., & Armour-Thomas, E. (2002). *Assessment and culture: Psychological tests with minority populations*. San Diego, CA: Academic Press.



- Hunter, J., & Schmidt, F. (2000). Racial and gender bias in ability and achievement tests: Resolving the apparent paradox. *Psychology, Public Policy, and Law*, 6, 151-158.
- Joseph, L. M., & Ford, D. Y. (2006). Nondiscriminatory assessment: Considerations for gifted education. *Gifted Child Quarterly*, 50, 42-51.
- Kim, S., Mansfield, A., & O'Donnell, E. (2002). Unpacking the practice of intellectual assessment. *Culture and Psychology*, 8, 345-364.
- Monzó, L. D., & Rueda, R. (2006). A sociocultural perspective on acculturation: Latino immigrant families negotiating diverse discipline practices. *Education and Urban Society*, 38, 188-203.
- Paniagua, F. A. (2005). *Assessing and treating culturally diverse clients: A practical guide*, (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage.
- Prieto, L. R., McNeill, B. W., Walls, R. G., & Gómez, S. P. (2001). Chicanas/os and mental health services: An overview of utilization, counselor preference, and assessment issues. *The Counseling Psychologist*, 29, 18-54.
- Quiroga, T., Lemos-Britton, Z., Mostafapour, E., Abbott, R. D., & Berninger, V. W. (2002). Phonological awareness and beginning reading in spanish speaking ESL first graders. *Journal of School Psychology*, 40, 85-111.
- Roid, G. H. (2003). *Stanford-Binet Intelligence Scales, Fifth Edition*. Itasca, IL: Riverside.
- Roid, G. H., & Pomplun, M. (2005). Interpreting the Stanford-Binet Intelligence Scales, Fifth Edition. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary assessment: Theories, tests, and issues* (pp. 325-343). New York, NY: Guilford Press.

- Suzuki, L. A., & Valencia, R. R. (1997). Race-ethnicity and measured intelligence. *American Psychologist, 52*, 1103-1114.
- Takano, Y., & Noda, A. (1993). A temporary decline of thinking ability during foreign language processing. *Journal of Cross-Cultural Psychology, 24*, 445-462.
- U.S. Census Bureau. (2001). *Overview of race and Hispanic origin: Census 2000* brief. Washington, DC: Author.
- Van de Vijver, F. J., Helms-Lorenz, M., & Feltzer, M. J. A. (1999). Acculturation and cognitive performance of migrant children in the Netherlands. *International Journal of Psychology, 34*, 149-162.
- Verney, S. P., Granholm, E., Marshall, S. P., Malcarne, V. L., & Saccuzzo, D. P. (2005). Culture-fair cognitive ability assessment: Information processing and psychophysiological approaches. *Assessment, 12*, 303-319.

Appendix A  
Curriculum Vita

## Curriculum Vitae

**Simone C. Harlow**

4307 Avenue D

Austin, TX 78751

Simone.Harlow@yahoo.com

303.949.6872

---

**Education**

- 2005 – 2011      **Doctor of Psychology, Clinical Psychology (Psy.D.)**  
Graduate Department of Clinical Psychology: **APA Accredited**  
George Fox University, Newberg, Oregon
- 2005 – 2007      **Master of Arts, Clinical Psychology**  
Graduate Department of Clinical Psychology: **APA Accredited**  
George Fox University, Newberg, Oregon
- 1998 – 2002      **Bachelor of Arts, Psychology**  
Colorado Christian University  
Lakewood, Colorado

---

**Clinical Internship**

- 2009 – 2010      **Vanderbilt University – Veterans Affairs Medical Center Consortium**  
– **APA Accredited**, Nashville, Tennessee. Rotations described below.
- June 2009 –  
October 2009      **Organ Transplant** – Nashville VA Medical Center & Vanderbilt University  
Medical Center  
*Population*  
Adults & Older Adults  
*Clinical Duties*
  - Member of the liver, heart, stem cell, kidney, and lung transplant team.
  - Conducted pre-transplant evaluations of transplant candidates and their primary support person(s), including diagnostic interview, cognitive and personality assessment, and collateral interview.
  - Formulated specific recommendations regarding suitability for transplantation and possible interventions or behavioral markers that must be met before the candidate is listed for transplantation.
  - Presented results of evaluations at a weekly interdisciplinary team meeting where candidacy for transplant is decided. This team includes physicians, surgeons, nurses, and social workers.

- Provided psychotherapy and facilitated support groups for patients and family members both pre- and post-transplantation.

*Supervisor*

Saundra Saporiti, Psy.D.

October 2009 –  
January 2010

Behavioral Medicine & Hospice – York VA Medical Center

*Population*

Adults & Older Adults

*Clinical Duties*

- *Intensive Care Unit:* Member of an interdisciplinary treatment team on an ICU, evaluated patients for psychiatric and cognitive concerns, composed integrated reports, communicated clinical recommendations to physicians.
- *Hospice/Palliative Care:* Member of an interdisciplinary treatment team on a hospice unit, evaluated new patient admissions for psychiatric and cognitive concerns, composed integrated reports, communicated clinical recommendations to treatment team, conducted short-term psychotherapy with patients and family members.
- *Acute Medicine/Surgery and Inpatient Rehabilitation:* Evaluated patients for psychiatric and cognitive concerns, provided short-term psychotherapy, communicated recommendations to treatment staff on a consultation basis.
- *Hepatitis C Clinic:* Conducted comprehensive evaluations of patients being considered for interferon/ribavirin treatment.
- *Diabetes Mellitus Clinic:* Facilitated a stress-management group for patients with newly diagnosed diabetes mellitus.

*Supervisors*

Lori Vehring, Psy.D. & Sharon Gordon, Psy.D.

January 2010 –  
March 2010

Rehabilitation Psychology & Geropsychology – York VA Medical Center

*Population*

Adults & Older Adults

*Clinical Duties*

- Provided psychological services on a consultation basis to veterans on six long-term care units within the hospital, including two nursing home units, a 12-bed gero-psychiatric unit, a physical rehabilitation unit, and two inpatient dementia and/or chronic psychiatric units.
- Conducted comprehensive evaluations and provided individual psychotherapy on a consultation basis.
- Treated the full spectrum of Axis I and Axis II psychiatric disorders, including drug/alcohol detoxification/rehabilitation and neuropsychological impairment.

- Facilitated reminiscence groups on two units.
- Participated in weekly interdisciplinary treatment team meetings.
- Performed specialized assessments as indicated (i.e., neuropsychological screenings, psychological adjustment to illness evaluations).
- Submitted article for GeriFax VA publication titled *Strategies to Reduce Stress in Elder Healthcare* distributed to geriatric staff members.

*Supervisors*

Erin Patel, Psy.D. & Jo Cara Pendergrass, Ph.D.

March 2010 –  
June 2010

Posttraumatic Stress Disorder – Nashville VA Medical Center

*Population*

Adults & Older Adults

*Clinical Duties*

- Conducted initial evaluations for Veterans with trauma histories, including diagnostic interview, mental status screening, and personality assessment.
- Provided short-term evidence-based individual psychotherapy, including Cognitive Processing Therapy and Motivational Interviewing to reduce PTSD symptomology in combat veterans.
- Conducted didactic and process group psychotherapy.
- Participated in the formulation of initial treatment plans and treatment plan reviews as a member of the multidisciplinary treatment team.

*Supervisor*

Lori Simms, Ph.D.

June 2009 – June  
2010

Outpatient Psychotherapy – Nashville VA Medical Center

*Population*

Adults & Older Adults

*Clinical Duties*

- Provided long-term individual psychotherapy to patients referred from primary care and specialty providers (typically 8-20 sessions).
- Formulated diagnostic impressions, case formulation, and devise long-term treatment plans from a bio-psycho-social perspective.
- Utilized evidence-based cognitive-behavioral techniques to increase patient insight and assist in enacting long-term change.
- Utilized motivational interviewing techniques to facilitate immediate change of entrenched behavioral problems.

*Supervisors*

Jonathan May., Ph.D., Erlete Ascencao, Ph.D., Mary Beth Covert, Psy.D., & Stacy Owen, Ph.D.

- June 2009 – June 2010      Outpatient Psychotherapy –Vanderbilt School of Medicine, Department of Psychiatry, Child & Adolescent Psychiatry
- Population*  
Children, Adolescents, & Families
- Clinical Duties*
- Provided long-term individual psychotherapy to Medicaid-eligible children, adolescents, and families (typically 8-20 sessions).
  - Formulated diagnostic impressions and case formulation, and devised long-term treatment plans from a bio-psycho-social perspective for clients who presented with comorbid disorders, exposure to a variety of family and environmental stressors, and with the involvement of numerous agencies and systems.
  - Performed assessments with child and adolescent psychiatric populations presenting with a range of psychiatric problems including conduct and behavioral disturbances, adjustment problems, depression and anxiety, and symptoms of psychotic disturbances.
- Supervisor*  
Erin Fowler, Ph.D.
- 

## Supervised Clinical Experience

- July 2008 – July 2009      **Practicum III**  
**Oregon Health Sciences University, Child Development and Rehabilitation Center, Autism Clinic**, Portland, Oregon
- Population*  
Children & Adolescents
- Clinical Duties*
- Conducted psychological and neuropsychological assessments with individuals presenting with symptoms associated with an autism spectrum diagnosis.
  - Provided diagnosis and feedback to clients and their families.
  - Completed psychodiagnostic reports.
- Supervisors*  
Darryn Sikora, Ph.D. & Mary Peterson, Ph.D.
- August 2007 – January 2009      **Practicum II**  
**Northwest Occupational Medicine Center**, Portland, Oregon
- Population*  
Adults & Older Adults
- Clinical Duties*
- Conducted psychological and neuropsychological assessments with individuals presenting medical disorders, primarily orthopedic or neurological related (e.g., chronic pain disorders, TBI).

- Provided psychoeducational and process group psychotherapy and biofeedback.
- Performed Social Security Disability evaluations as adjunct.
- Participated in police-psychology evaluations as adjunct, performing pre-employment screenings for police candidates.

*Supervisors*

Michael Leland, Psy.D., CRC, Mark McMinn, Ph.D., ABPP, & Charity Benham, Psy.D.

August 2007 –  
April 2008

**Supplemental Practicum II**  
**Oregon State University, Counseling and Psychological Services,**  
Corvallis, Oregon

*Population*

Adolescents & Adults

*Clinical Duties*

- Conducted intake interviews and formulated assessment reports.
- Provided short-term individual therapy for clients presenting with a range of psychiatric problems including conduct and behavioral disturbances, adjustment problems, eating disorders, and depression and anxiety.
- Engaged in treatment planning with clients.
- Consulted with and presented cases to a mental health team.

*Supervisors*

Brett Vicario, Ph.D. & Michele Ribeiro, Ed.D.

August 2006 –  
June 2007

**Practicum I**  
**Multnomah County Inverness Jail, Portland, Oregon**

*Population*

Adults

*Clinical Duties*

- Provided individual and group psychotherapy to incarcerated individuals within a 1014-bed correctional facility.
- Participated as an integral part of an interdisciplinary corrections health-care team, conducting intake interviews and providing intellectual and personality testing, and consultation.
- Developed skills and utilized abilities in psychological report writing, client progress notes, formulating diagnosis, performing mental status examinations, and developed and implemented treatment plans.
- Participated in weekly treatment team meetings to determine appropriate setting, discipline, and treatment for inmates in mental health dorms.

*Supervisors*

Stephen Huggins, Psy.D., CCHP, Paul Stoltzfus, Psy.D.



January 2006 –  
April 2006

**Pre-Practicum**

**George Fox University, Health and Counseling Center, Newberg, Oregon**

*Population*

Adults

*Clinical Duties*

- Conducted intake interviews and formulated assessment reports.
- Provided brief individual therapy.
- Engaged in treatment planning with client.
- Consulted with and presented cases to a multidisciplinary mental health team.

*Supervisors*

Clark Campbell, Ph.D., ABPP & Ken Kornelis, Ph.D.

**Non-Clinically Supervised Professional Experience**

December 2003 –  
May 2004

**Extern Chaplain**

**The University of Colorado at Denver Health Sciences Center, Denver, Colorado**

*Population*

Children, Adolescents, Adults, & Older Adults

*Duties*

- Processed emotions involved in imminent death of self or loved-one, performed baptisms, anointing of the sick, prayer, and Eucharist.
- Conducted detailed evaluations and reports of those practices with supervisor and peer group.
- Took part in pastoral supervision and guidance.
- Learned and experienced multiple theoretical, spiritual, and religious perspectives with a peer group.
- Participated in multidisciplinary medical ethics board meetings.

*Supervisor*

Janet Barriger, M.A.

August 2002 –  
February 2003

**Mental Health Counselor**

**The Children's Hospital, Child & Adolescent Psychiatric Units, Day Treatment, & Eating Disorders Unit, Denver, Colorado**

*Population*

Children & Adolescents

*Duties*

- Coordinated milieu-based behavioral therapies.
- Worked closely with nursing staff to provide safe and therapeutic care for patients in these intensive programs.
- Led group therapy.

April 2001 – June  
2002

**Victim Assistant**

**Denver Police Department, Victim Assistance Unit**, Denver, Colorado

*Population*

Children, Adolescents, Adults, & Older Adults

*Duties*

- Provided official death and emergency notifications (emergency hospitalization, tragedy, impending death of family members) to family members.
- Dispatched to crime scenes, homes, hospitals, and other locations where victimization occurred, to provide immediate crisis intervention, support and information to victims of crime and non-criminal stark misfortune (i.e. natural death, death & emergency notifications, and other non-criminal situations involving trauma and police response).
- Provided on-scene response to victims of arson, assault, burglary/theft, caregiver abuse, child abuse, child sexual assault, domestic violence, drunk driving, elder abuse, fraud, hate crime, property crimes, robbery, adult sexual assault;
- Provided on-scene response to witnesses and loved ones of the deceased involved in suicide, sudden infant death syndrome, suspicious death, traffic fatality, and homicide, as well as situations involving non-criminal trauma at the request of the Denver Police Department.
- Completed intensive classroom training and on-scene shadowing.
- Attended a monthly training meeting to receive ongoing training and supervision related to crisis intervention and victim services.
- Attended multiple opportunities to complete additional, dynamic trainings for members of the Victim Assistance Unit.
- Participated in weekly individual and group supervision.

*Supervisors*

Zoë Livingston-Poole; Nicole Sundine-Sanchez

**Non-Clinically Supervised Volunteer Experience**

December 2004 –  
May 2004

**Pastoral Care Representative**

**The Children's Hospital of Denver**, Denver, Colorado

*Population*

Children, Adolescents, Adults, & Older Adults

*Duties*

- Offered spiritual support and resources to patients and families during hospitalizations and periods of illness, crisis, and loss.
- Direct pastoral care supporting patients, families, and employees.

*Supervisor*

Robert Flory, Ph.D.

- December 1999 – **Street Outreach Counselor**  
 May 2001 **StandUp For Kids**, Denver, Colorado  
*Population*  
 Children & Adolescents  
*Duties*
- Provided counseling to homeless and at-risk street adolescents and children.
  - Coached educational and vocational development and provided nourishing meals.
  - Taught and helped to develop basic life skills (budgeting, banking, apartment search, cleanliness, safety, shopping, cooking, nutrition, and hygiene).
- Supervisor*  
 Sheila Mahony, M.A.
- 

## Research Experience

- August 2006 – **Item Fairness of the Nonverbal Subtests of the Stanford-Binet**  
 October 2011 **Intelligence Scales, Fifth Edition, in a Latina/o Sample**  
 Researched the effects of acculturation and language on performance on the Nonverbal subtests of a standardized intelligence test.  
*Dissertation Committee Chair*  
 Rodger Bufford, Ph.D.
- August 2006 – **Research Vertical Team Member**  
 June 2009  
 Participated in bi-weekly team meetings to discuss a wide variety of research projects. Responsibilities included presentation of dissertation research, consultation on team members' research, development of group papers/presentations, data coding, collecting assessment data, and idea generation.  
*Supervisors*  
 Rodger Bufford, Ph.D. & Gale Roid, Ph.D.
- December 1997 – **Research Assistant**  
 May 1998 **Bridge Counseling Center**, Conroe, Texas  
 Duties included visiting children anonymously in their routine environment (e.g., school) in order to observe, assess, and report findings of identified ADHD symptoms.  
*Supervisor*  
 Bill Jack Davis, PhD.

---

## Publications/Presentations

Hall, T., Flachsbart, C., **Harlow, S.**, & Adams, W. (In review). The Everyday Memory Survey (EMS): Psychometric properties of a standardized survey instrument. *Journal of the International Neuropsychological Society*.

Hall, T., Flachsbart, C., **Harlow, S.**, & Adams, W. (2008, February). *The Everyday Memory Survey (EMS): Psychometric properties of a standardized survey instrument*. Poster session presented at the annual meeting of the International Neuropsychological Society, Waikoloa, HI.

---

## Teaching Experience

April 2009

**Guest Lecturer**  
**Undergraduate Department of Psychology**  
 George Fox University, Newberg, Oregon  
 PSY 150 *General Psychology*  
 Lecture Title: "Emotion and Motivation"

September 2008 –  
 January 2009

**Teaching Assistant**  
**Graduate Department of Clinical Psychology**  
 George Fox University, Newberg, Oregon  
 PSYD 562 *Child and Adolescent Psychopathology: Assessment and Treatment*  
*Duties*

- Wrote, administered, and scored exams
- Provided individual and group tutoring
- Tracked and analyzed students' testing competencies
- Corrected assignments, consulted with professor
- Guest lectured

*Supervisor*  
 Mary Peterson, Ph.D.

August 2003

**Guest Lecturer**  
**Graduate Department of Counseling**  
 Colorado Christian University, Lakewood, Colorado  
 CSL 645 *Crisis and Trauma*  
 Lecture Title: "Victim Assistance and Trauma Counseling"

---

## Supervision and Mentoring Experience

- September 2008 – May 2009 **Supervisor of Pre-Practicum Student**  
 Graduate Department of Clinical Psychology, George Fox University  
 Newberg, Oregon  
*Duties*
- Weekly exploration of initial practicum experiences.
  - Case conceptualization of new clients, treatment options, maximizing supervision experience, and providing support.
  - Continuous development of clinical competences required by the program.
  - Participated in weekly supervision with program faculty member.
- Supervisor*  
 Mary Peterson, Ph.D.
- May 2006 – June 2009 **Graduate Student Peer Mentor**  
 Mentored a new graduate student in graduate-school acclimation and professional development.

---

## Community and University Involvement

- May 2008 – May 2009 **President, Graduate Student Council, George Fox University**  
 Responsible for facilitating meetings, completing and/or delegating all student council responsibilities, maintaining finances and budget, updating the handbook, and representing the student body in a bi-weekly meeting with the head of the Graduate Department of Clinical Psychology.
- May 2008 – May 2009 **Member, Accreditation and Program Evaluation Committee, Graduate Student Council, George Fox University**  
 Participated in the review of the Graduate Department of Clinical Psychology Program with regards to future APA reaccreditation.
- May 2008 – May 2009 **Student Representative, Oregon Psychological Association, George Fox University**  
 Maintained communication between OPA and student body, renewed memberships, and provided organizational information and support to graduate students.
- September 2006 – May 2009 **Member, Diversity Committee, Graduate Student Council, George Fox University**  
 Participated in encouraging future clinicians to competently serve individuals and systems from diverse populations by gaining knowledge, understanding, and experience with a variety of multicultural issues.

- September 2006 – September 2007     **Member, Conference Committee, Graduate Student Council, George Fox University**  
 Responsible for creating and managing a psychological conference at the University by bringing effective presenters to the psychological community.
- September 2006 – September 2007     **Student Representative, Graduate Student Council, George Fox University**  
 Represented the interests of members of my cohort as well as the student body in general when making funding, academic, and professional development decisions. Elected by my cohort.
- March 2007     **Advocate for Psychologists**  
 Oregon Capital Mall, Salem, Oregon
- Attended experiential training session on legislative advocacy for psychology.
  - Attended meetings with individual Oregon State Representatives regarding:
    - SB 407 Prescriptive Authority,
    - HB 2514 Rural Provider Tax Credit
    - SB 1 Mental Health Parity
- Presenters: Susan Patchin, Psy.D., Pat Stone, Ph.D., Doug Marlow, Ph.D.
- August 2005 – May 2009     **Member, Multicultural Organization, George Fox University**  
 Fostered an atmosphere that honors diversity and expands multicultural awareness within the Graduate Department of Clinical Psychology (GDCP), GFU, and greater community. Enhanced the recruitment and retention efforts for ethnic minority students in the GDCP.

**Professional Conferences Assisted**

- December 2006     **PTSD from a Life-time Perspective**  
 Donald Meichenbaum, Ph.D., Portland, Oregon
- October 2006     **Motivational Interviewing**  
 William R. Miller, Ph.D., Newberg, Oregon

**Professional Affiliations and Memberships**

- 2005 – Present     American Psychological Association, Student Affiliate  
 2006 – 2010     Oregon Psychological Association, Student Affiliate  
 2010 – Present     Capital Area Psychological Association



**Award/Honor**

2009

**Graduate Department of Clinical Psychology Yearly Commendation Award**

George Fox University, Newberg, Oregon

One student out of approximately 80 graduate students total nominated each year by faculty for outstanding academics, clinical work, community involvement, and leadership.

---

**Spoken Languages**

Swiss-German, German, and some conversational French