Comparability of English and Spanish/English Mathematics Tests

Part 1: Differential Item Functioning

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Executive Summary

Spanish speaking students in Oregon who are learning English have the option of taking the state's math test in English only or as a dual language test displaying items in both English and Spanish. In conjunction with evidence of the accuracy of the translations, both tests would be expected to be equivalent measures of math proficiency. To document comparability of scores, this study explored and identified potential differences in how the two versions might function. Three methods of differential item functioning (DIF) tested for differences in item functioning across the standard and dual-language tests, including Mantel-Haenszel, logistic regression, and ICC curves.

Results indicate that while DIF was observed for some items, the percentages of items with DIF is not inconsistent with previous research showing more DIF on translated test items. The direction of DIF was equally balanced, with approximately the same number of items favoring both the focal and referent groups.

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Background

Spanish speakers in Oregon who are learning English have the option of taking either a standard or a dual language test in Mathematics. A dual-language test, called a *side-by-side* test displays the item text in both English and in Spanish, while a standard test only displays the item in English. [1] Although the test differs in terms of the language in which the items are presented, it is Oregon's intent that both of these forms of the statewide assessment describe student's mastery of the content in a similar manner. While it is possible to measure differences at the state level, there are factors associated with the student's proficiency that may confound an analysis of test score differences. However, by matching and using DIF statistical methods to examine differences at the item level, student ability differences are removed as a confound and allows for clear evaluation of the comparability of the test forms.

Purpose

An item analysis presumes that if two tests are comparable, their common items will function in similar ways for all groups. When evaluating items, both statistical and judgmental methods should be used to ensure item comparability (Sireci, Yang, & Hunter, 2006). The purposes of this study are: (1) to identify any potential differences in how the two item versions function and (2) to eliminate possible sources of item difficulty unrelated to the construct through a rigorous quality control process. This first purpose is accomplished by using differential item functioning (DIF) methods to test any potential differences in how the item versions function. The second purpose is accomplished by examining and revising if necessary, any items that function differently for any group of interest. To this end, in addition to the systematic review of every translated item by Oregon teachers fluent in the translated language, the Oregon Department of Education has contracted with an independent reviewer to conduct a special evaluation that will identify any translation problems that materially impacts the meaning of the language used in its items. This final step addresses potential issues of content that can be used in concert with the evaluation of item performance. The current paper addresses the first purpose; evidence addressing the second purpose is provided the review of translation accuracy conducted by American Institutes for Research (AIR) through its subcontractor Transperfect Translations[2].

[1] A sample release dual-language item is in Appendix A

[2] See Doc 6.2 for the report of the translation accuracy review..

Dual Language Comparability

Previous research examining second/foreign language proficiency testing has shown differences in the functioning of items for groups who spoke different native languages. For example, examining the responses of more than 1400 students on two international tests, one study indicated that 27% of the items used on a First Certificate of English Test (FCE) and the Test of English as a Foreign Language (TOEFL) exhibited large DIF, while another 17% exhibited moderate DIF (Ryan & Bachman, 1992). Interestingly, the number of DIF items favoring any one language group in this study was nearly completely balanced, when both moderate and large DIF items were considered together. A second study by Allalouf, Hambleton, & Sireci (1999) of the Israeli Psychometric Test in Hebrew was done on a Russian translation of the test items. The study found that 34% of the items indicated that some form of DIF was present when the Russian translations were compared to items translated in native Hebrew. According to this research, the main reasons for DIF are changes in word difficulty, changes in item format, changes in content, and changes in cultural relevance. Much of this research focused on items influenced by both primary and secondary language background and this evidence suggests that DIF is more likely to appear in translated forms of these test items.

Approach

The standard mathematics test delivered on Oregon's Web-based system is comprised of English-only items that are targeted to the (within-grade) ability level of each examinee. The standard test is constructed "on-the-fly" by an adaptive engine that selects the most appropriate items from a larger pool (150 or more) of items to maximize the precision of the test, while adhering to strict grade level and content constraints. Unlike the standard test, side-by-side tests are administered as fixed tests on the web, with all examinees taking the same items but in a different order. Dual-language tests present items both in English and the targeted native language of the examinee. So, for instance, an English-language learner who is literate in Spanish may more clearly comprehend the test questions (and therefore more reliably demonstrate his/her mastery of the content) if the items were presented in both English and Spanish. There were three dual-language pools available at every grade level, each with the assigned names of Florida, Hawaii, and Maine. There were three standard pools available at each grade level, each with the assigned names of Ohio, Idaho, and Kansas, and each providing adaptive tests of approximately 35 items. The Kansas pools were unique since the adaptive test offered in this pools was longer in length -- 50 or 60 item length tests as compared to 35 item length tests in other pools[3].

In terms of form comparability, we are then faced with the questions as to whether English-language learners taking a dual-language item would tend to attain similar results when compared to a set of students with similar abilities taking the same item in English. Arguably, this is not directly testable given that students who are not fluent in a language may find the presentation of an unknown language (e.g. Spanish) distracting. However, we can take a field study approach by assuming that, if the translation is equivalent or comparable to the English

[3] Oregon offers a long version of the state test to provide teachers with the option for enhanced strand-level information.

item, examinees are equally likely to get the item correct, regardless of the version presented. Further, if the probability of a correct answer is equivalent across language versions (i.e. the items function similarly across the two item display modes),, the empirical item characteristic curves (ICCs) produced by the two modes will be similar. Using a DIF approach we can classify the two modes as responses from a focal and referent group respectively and would expect that the ICCs are invariant and the differences in item performance between comparable groups would be minimal if assumptions of comparability are met.

Items may function differently for comparable groups of students in both uniform and non-uniform ways (Holland and Wainer, 1993). Differential item functioning refers to "differences in item performance between two comparable groups" matched on some common ability (Dorans and Holland, 1993). Graphically, DIF is demonstrated when the ICC for one group's responses is consistently above or below the ICC of a second group's responses at every ability level. This effect is known as a uniform DIF effect. Likewise, different groups may be favored at different ability levels because the item does not discriminate equally well at all ability levels. This non-uniform discrimination at different ability levels forces the ICCs to cross, demonstrating an interaction effect. This research employs DIF methods used to empirically test for any potential uniform and non-uniform differences in item response functioning. If the items are comparable, the DIF statistics testing for any group differences in item performance beyond any true differences would be significant only by chance alone. Chance effects are minimized by examining statistical effect sizes as well as statistical tests.

Sample

The Oregon 2005-06 mathematics test records were used in this study of DIF where students taking dual-language tests were identified as the designated group of interest. To avoid making comparisons with students having other forms of learning problems, students in special education programs were excluded from the study. Zwick (2003) suggests that DIF assessment procedures for CATs might be developed by matching examinees on expected true scores and then applying existing DIF methods like the Mantel-Haenszel statistic. However, our challenge is more complex since students in the focal group took a fixed set of items, while students in the referent group took an adaptive test which tailors the selection of the test items to the ability level of the students. To obtain comparable groups, a sampling program that matches the distribution of the true scores of students in the referent group to the existing distribution of true scores of students in the focal group. The program first segments the focal group's distribution of scale scores into eight strata, and then randomly selects students from the referent group with scores that match the focal group's scores within the same interval. So, for example, if 5% of the students in the focal group had scored between 205 to 210 on the test, the sampling program would match the scores of students in referent group until 5% of those scores were between 205 and 210. This matching procedure is performed across the entire distribution of scores in the focal group until a similar distribution of scores was selected for the referent group. Most of the time, after employing this matching procedure, the scale means and standard deviations were approximately equal for both the focal and referent groups after sampling. These sampling procedures proved to be most effective at producing comparable groups of respondents for each item. As a result, the sampling procedure permits an accurate comparison of students with equal proficiency levels in both the referent and focal groups.

Statistical Methods Employed

To ensure a rigorous evaluation, three methods were chosen to examine uniform and non-uniform differences in group responses: 1) the Mantel-Haenszel procedure (Holland & Thayer, 1988) and 2) the logistic regression procedure (Swaminathan and Rogers, 1990; Zumbo, 1999). Basic to each of these two approaches is their ability to statistically detect disadvantages and advantages that some groups of interest have when compared to the rest of the population. Finally, 3) graphs of the ICC curves further target the ability levels where these differences lie. These methods are now described in greater detail.

Mantel-Haenszel Procedure: Holland and Thayer (1988) proposed the use of the Mantel-Haneszel procedure as a practical and powerful way to detect test items that function differently for two matched groups of examinees. A set of 2x2xK cross-tabulation tables are produced for the previously matched set of examinees in both the reference and focal groups and whether the student got the item correct or incorrect. In this case, K is equal to the number of matched intervals or eight intervals. The Mantel-Haenszel procedure tests the null hypothesis that the common odds ratio of correct response across all matched groups is $\alpha = 1$. Mantel and Haenszel also developed an estimator of α whose scale ranges from 0 to ∞ known as alpha ($\hat{\alpha}$), so an obtained value of $\hat{\alpha}=1$ implies that there is negligible or no DIF. Holland and Thayer (1988) proposed a natural log transformation of Mantel and Haenszels's estimator called "delta" that is symmetric and has 0 as a null value. A delta value (d-dif) close to or equal to 0 has no DIF, a delta value (d-dif) significantly less than 0 corresponds to items the reference group found easier to get correct, and delta value (d-dif) significantly greater than 0 corresponds to items the focal group found easier to get correct. The Educational Testing Service classifies an item as having large DIF when the delta value is greater than or equal to 1.5 in absolute value (Zieky, 1993).

Logistic Regression Procedure: The Mantel-Haenszel procedure assumes that the DIF measured by the item statistic exists uniformly over the entire range of correct and incorrect responses for a given group. A generalization of the Mantel-Haenszel procedure (see Rogers and Swaminathan, 1989), the logistic regression tests for "uniform" and "non-uniform" differences in the responses represented by the ICCs of both the focal and referent groups. These differences may be measured in two ways using a logistic regression: 1) a group main effect tests focal- and referent-group differences in the slopes of the groups taking the items, and 2) a score by group interaction demonstrates DIF for the group favored by item changes at alternative ability levels. A third test of the score main effect is also performed, but this test is not a measure of DIF since the groups tested are not from comparable proficiency levels. However, a strong relationship between the item trait being measured and the latent trait defined over the scale is an indication of the item's validity (Zumbo, 1999).

Item Characteristic Curves: Graphically displaying the relationship between ability and the difficulty parameter is informative, especially when comparing differences in the ways an item functions for a given group. Differences in the graphs of the ICC curves depict where certain groups with protected status are over- or underperforming compared to their peers. These graphs also help analysts visually identify items with non-uniform DIF.

Analysis of Results

This analysis examines items from several pools administered to students at grades 3 through 10. As previously described, all items were administered in an English format, while the dual-language version of the item also presents a translation of the item in the student's primary or native language. The type of test administered to English speakers and English-language learners is also slightly different since English speakers take an adaptive test comprised of items targeted to the ability level of the student, while English-language learners take a fixed test comprised of identical items taken by all students taking a test from a side-by-side pool[4]. A common identification number is assigned to the English-only version and its side-by-side counterpart, but the statistical history of the two versions of these items is separately maintained.

Mantel-Haenszel Procedure

Table 1 presents the results of the DIF analysis of the English and side-by-side items by grade and item identification number. The column labeled "**Bank Calib**" provides the calibration value established for the English-only version. For each of the eight levels of the matching variable, the tallied responses are counted for both the reference and focal groups and the odds ratio is calculated. The column labeled "**odds ratio**" provides an index value indicating what group may be favored by the item. A value of the odds ratio equal to 1 suggests equal odds of passing an item for both the reference and focal groups. A value of the odds ratio above 1 suggests that the reference group has better odds for passing the item. A value of the odds ratio below 1 suggests that the focal group has better odds of passing the item. The odds ratio is considered a measure of effect size, but its distribution is positively skewed. The odds ratio is typically transferred to the log-odds ratio by taking the natural log of odds ratio. This natural log transformation provides a symmetric distribution centered at 0, and the variance and standard error of the log odds is then calculated. The column labeled "**M-H Chi Sq**" presents the obtained chi-square value for the Mantel-Haenszel statistic calculated for the log-odds ratio. This obtained chi-square tests the degree of association between group responses on the eight levels of the matching variable. A significant test (**M-H Chi SQ P-value**) indicates that the item is functioning differently for the two groups. The column labeled "**log-odds ratio**" is the calculated natural log of the odds ratio and the **standard error of the odds ratio** is also calculated and presented in Table 1.

The log-odds ratio times -2.35 puts the log odds ratio on Education Testing Service's (ETS) Delta scale (cite). A delta value (**d-dif**, in Table 1) close to or equal to 0 has no DIF, a delta value (d-dif) significantly less than 0 corresponds to items the easier for the reference group, and delta value (d-dif) significantly greater than 0 corresponds to items the focal group found easier. ETS maintains that large DIF exists when the delta value has a magnitude that equals or exceeds 1.5 in absolute value. ETS classifies the absolute value (ABS) of delta into degrees of DIF.

[4] See Oregon's Technical Report, Volume 4: Reliability and Validity (Oregon Department of Education, 2007) for evidence of comparability between the adaptive and fixed-form tests and short and long tests.

Type A=No DIF (less than 1 ABS delta)
Type B=Moderate DIF (1 to 1.5 ABS delta)
Type C=Large DIF (greater than 1.5 ABS delta).

An example of this analysis is now provided. Item 1 presented in both the Kansas and Florida pools was assigned the item ID, M0010960. The estimate of the item's difficulty parameter was 189 so it is considered an easy item for most third graders. However, an odds ratio of 1.427 indicates that the referent group was more likely to get the item correct. In fact, the chi-square statistic of 8.994 for a log-odds ratio value of 0.355 indicates a statistically significant difference in the odds of a correct response favoring the referent group, with an obtained significance level of 0.003 associated with this chi-square statistic. If one multiplies the log-odds ratio of 0.355 by -2.35, one transforms this value of the log-odds ratio scale to a value of -0.835 on ETS delta scale. The absolute value of -0.835 is 0.835 which is classified as a "**Type A"** item by ETS or an item with no DIF. Items classified as "Type B" or "Type C" are highlighted in Table 1. Table 1a summarizes the results described in Table 1.

Table 1a: Summary of Mantel-Haenszel Procedure DIF Analysis, Grades 3-8 and 10

	Number of items	Number Type B items	Group favored	Number Type C items	Group favored	Percent of items with moderate or Large DIF
Grade 3	55	9	Referent (4) Focal (5)	4	Referent (4) Focal (0)	23.6
Grade 4	38	6	Referent (2) Focal (4)	10	Referent (7) Focal (3)	42.1
Grade 5	49	7	Referent (6) Focal (1)	8	Referent (7) Focal (1)	30.6
Grade 6	34	6	Referent (5) Focal (1)	5	Referent (4) Focal (1)	32.4
Grade 7	27	2	Referent (2) Focal (0)	5	Referent (5) Focal (0)	25.9
Grade 8	45	5	Referent (2) Focal (3)	14	Referent (9) Focal (5)	42.2
Grade 10	50	6	Referent (5) Focal (1)	12	Referent (9) Focal (3)	36.0

Note: The focal group includes students taking dual language items, the referent group includes students taking the standard, English only items.

The Logistic Regression Procedure

Results of the logistic regressions for each of the English-only and side-by-side equivalent items are presented in Table 2. A hierarchical regression uses a forced entry procedure to test differences in variables regressed on a dichotomous response variable. The continuous scale score is first regressed on the response or dependent variable. It is hoped that the conditional relationship of the trait scale score to the dichotomous response is large and significant since overall performance should validly predict individual item performance. This analysis is complex and is described by many variables. To facilitate interpretation, the process is described below and all included statistics are identified and defined below and in Appendix B.

"**R-square total score in the Model**." Is the R-squared associated with the first step of the hierarchical regression of the scale score onto the item response variable. This first regression produces a chi-square goodness of fit statistic as wells as an estimate of the explained variance (R^2).

The "**R-square total score and uniform DIF**" column describes the statistic associated with this uniform DIF effect, and the chi-square uniform DIF statistic tests this additional explained variance over and above the trait effect. Finally, the grouping variable is multiplied to the trait variable to produce an interaction term, and this interaction term is next added to the model using the forced entry procedure.

The **R-square, total, uniform, and non-uniform DIF** column describes output from this last step and includes a non-uniform DIF statistic and R-square statistic that tests the amount of variation attributed to the addition of the interaction term to the model. A significant change in the R-square value would be an indication that non-uniform was present in the item. The non-uniform chi-square statistic tests the added contribution of the interaction term to the overall, explained variation.

The "**DIF R-square**" describes the total (uniform and non-uniform) DIF in terms of explained variance.

Again, using item 1 as an example, the total latent trait variance measured by regressing the overall score onto the item response amounts to 15.2 percent of the variance. This latent score effect is statistically significant and acceptable in strength or magnitude. The amount of increased variation attributed to uniform DIF increases this effect to 18.1 percent of the explained variance. This contribution is also statistically significant (χ^2=21.796, d.f.=1, p=0.00), yet the increase in explained variance is less than 3 percent. The increase in explained variation attributed to the interaction term after controlling for the trait and uniform effect is minimal, with the R-square still accounting for 18.1 percent of the variance and non-significant chi-square test (χ^2=0.191,d.f.=1, p= 0.662). Overall, uniform and non-uniform DIF explains about 2.8 percent of the variance in the item and is statistically significant (χ^2=21.987, d.f.=2, p= 0.000). However, even though these effects are statistically significant, their total contribution in explaining the scores is slight.

Item Characteristic Curves

Comparisons of the ICC curves can greatly enhance the ability to identify where uniform and non-uniform differences exist when examining how an item functions for two groups. For example, the ICCs for item 4 in the grade 3 Kansas and Florida pools with item ID M0104060 are shown in Figure 1. The marks labeled "+" trace the empirical characteristic curve for the focal group, while the "*" marks trace the empirical characteristic curve for the referent group at each ability level. The points on the graph labeled "-" show the theoretical or modeled ICC. It is immediately obvious that the empirical ICC of the referent group is well above both the theoretical and empirical ICCs of the focal group at most ability levels. This DIF is large in magnitude and is uniform in nature since the empirical ICC of the referent group remains above the focal group's empirical ICC across all ability levels. Both the Mantel Haenszel procedure and the uniform DIF statistic of the logistic regression are sensitive to these differences after controlling for any confounding effects attributed to each groups' level of performance. The Mantel Haenszel odds ratio is not simply calculated for one score level, but for eight score levels in this study. So to get the overall DIF value for this particular item, odds ratios at all eight levels have to be computed, summed, and divided by the number of levels. Although an odds ratio of 1 in Table 1 indicates no effect, an odds ratio of 2.223 for this item indicates that the odds of a correct response greatly favor the referent group. Here we can say that the students in the referent group who took the item in English were 2.2 times more likely to get the answer correct then those in the focal group who took a side-by-side item.

In Figure 1, a uniform test of the growth rates of the two groups is shown and is an indication of how well the item discriminates each group's level of performance. Although the ICC rises for both groups in a uniform fashion over each ability level, the difference in rates of growth is constant and equally affected at all ability levels. Such a result indicates that the item may not be an equivalent measure of the same latent variable for each group. Since this item is exhibiting large amounts of uniform DIF, it should be re-evaluated.

A good example of a set of ICCs representing just non-uniform DIF in an item can be seen in Figure 2. This fourth grade item appeared in both the Florida and Idaho pools and was assigned the item ID M0438260. As before, the focal group is represented by the "+" sign on the graph and the referent group is represented by the "*" sign on the graph. Note that the focal group consistently outperforms the referent group up to the point where their empirical ICCs cross (approximately, the scale score of 218). From this crossing point and higher on the graph, the referent group outperforms the focal group.

Highlights of the Findings

Results presented in Tables 1 and 2 indicate that there was more DIF in dual-language items than is typically found in Oregon's standard pools. However, the percentages of significant DIF items are not unlike results found in previous research on translated test items. Using the Mantel-Haenszel and the ETS classification categories in Table 1, the percentage of dual-language items demonstrating moderate or large DIF were more common in grades 8 (42 percent), 4 (39.5 percent) and 10 (36 percent).

with the exception of the Florida pools, the groups favored by this DIF are equally balanced, with approximately the same number of items favoring both the focal and referent groups. This is consistent with other research. The Florida pools had many more items favoring

the referent group in grades 4, 5, and 6. However, because there were fewer shared dual-language and English-only items in common with the Kansas, Ohio, and Idaho pools, neither the dual-language Hawaii nor Maine pools were studied at grades 7, 8, and 10.

Logistic regressions in Table 2 appear to mostly mirror the Mantel Haenszel results. The two degree chi-square test labeled "**Total DIF Chi-Square**" was proposed by Zumbo (1999) as a means of maximizing our ability to test for both uniform and non-uniforms forms of DIF, while controlling for the overall Type 1 error. Although forty-five percent of these tests had an observed significance level (p-value) less than 0.05, only six of these tests had effect sizes that would indicate either moderate (R-square=0.13-0.26) or large (R-square greater than 0.26) effect sizes as classified by Zumbo (1999). Since sample sizes mostly ranged between 200 and 500 students in the focal group, it is unclear how relevant this effect size is in this context.

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Appendix B

Table 1 Column Headings

English test: Adaptive Mathematics pool in English that targets the ability level of the student taking the item. These pools are comprised of 250 items or more and students are given just one opportunity to take either a long (50 to 60 items) or a short test (35 items).

Span-Eng: Dual-language test pool designed to administer items to each person in both English (the source language) and Spanish (the target language).

Bank calib: Bank or anchor calibration for the item.

Item id: Id assigned to the item.

M-H Chi square: Chi-square test associated with the log-odds ratio.

Odds Ratio: ranges from 0 to infinity. The odds of passing a selected item in jth score group. An odds ratio closer to 0 indicates that the focal group is more likely to pass it. An odds ratio close to 1 makes odds equal. An odds ration greater than 1 is more likely to favor the referent group.

Log Odds Ratio: Log of the odds ratio used to calculate the M-H Chi-square test.

SE Log Odds Ratio: Standard Error of the log-odds ratio.

M-H Chi-Square P-value: observed significance level of the chi-square test.

ETS delta: The log-odds ratio times -2.35 puts the log odds ratio on Education Testing's Delta scale. A delta value (d-dif) close to or equal to 0 has no DIF, a delta value (d-dif) significantly less than 0 corresponds to items the reference group found easier to get correct, and delta value (d-dif) significantly greater than 0 corresponds to items the focal group found easier to get correct. The Educational Testing Service argues DIF exists when the delta value has a magnitude that equals or exceeds 1.5 in absolute value.

ABS delta: The absolute value of ETS delta.

ETS classification: ETS classifies the ABS delta into degrees of DIF.

A=No DIF (less than 1 ABS delta)
B=Moderate DIF (1 to 1.5 ABS delta)
C=Large DIF (greater than 1.5 ABS delta).

Group Favored: Group favored by the item.

Table 2 Column Headings

R-SQUARE Total score in the model: The amount of total score variance explained by the trait as measured by the item. It is argued by Zumbo (1999) that this measure is an indication of the item's validity.

R-SQUARE Total score and Uniform DIF: The amount of total score variance explained by the trait by group effect (uniform DIF).

R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF: The amount of total score variance explained by the trait, the group, and the interaction of the trait and the group variables.

DIF R-Squared: The total (uniform and non-uniform) DIF effect in terms of explained variance. A measure of DIF effect size (proposed by Zumbo, 1999).

UNIFORM DIF CHI-SQUARE: The obtained Chi-square value associated with any group differences in the probability of response to the item.

NON-UNIFORM DIF CHI SQUARE: The obtained Chi-square value associated with any group by trait differences in the probability of response to the item.

TOTAL DIF CHI-SQUARE: The obtained Chi-square value associated with any group (uniform DIF) as well as any group by trait differences (non-uniform DIF) in the probability of response to the item.

UNIFORM DIF P-VALUE: observed significance level of the chi-square test for uniform DIF.

NON UNIFORM dif P-VALUE: observed significance level of the chi-square test for non-uniform DIF.

TOTAL DIF P-VALUE: observed significance level of the chi-square test for all DIF (uniform and non-uniform).

Table 1. Mantel-Haenszel Analysis

Grade	Adaptive Eng Pool	Fixed length Span/Eng Pool	ItemID	item	Bank Calib	Odds ratio	M-H Chi sq	log-odds ratio	SE log-odds ratio	M-H Chi SQ P-value	ETS delta (D-DIF)	ABS ETS delta	ETS classification	Group Favored
3	Kansas	Florida	M0010960	001	189	1.427	8.994	0.355	0.119	0.003	-0.835	0.835	A	
3	Kansas	Florida	M0011010	002	193	0.915	0.789	-0.089	0.100	0.375	0.209	0.209	A	
3	Kansas	Florida	M0103780	003	202	0.835	4.075	-0.180	0.088	0.040	0.424	0.424	A	
3	Kansas	Florida	M0104060	004	198	2.223	66.280	0.799	0.099	0.000	-1.877	1.877	C	Referent
3	Kansas	Florida	M0107870	005	182	1.516	14.892	0.416	0.107	0.000	-0.978	0.978	A	
3	Kansas	Florida	M0112090	006	210	0.909	0.798	-0.096	0.101	0.345	0.225	0.225	A	
3	Kansas	Florida	M0212460	007	208	0.864	2.455	-0.146	0.091	0.107	0.343	0.343	A	
3	Kansas	Florida	M0212550	008	188	1.032	0.062	0.031	0.103	0.762	-0.073	0.073	A	
3	Kansas	Florida	M0237291	009	215	0.747	5.558	-0.292	0.121	0.016	0.687	0.687	A	
3	Kansas	Florida	M0237710	010	211	0.655	13.763	-0.423	0.113	0.000	0.993	0.993	A	
3	Kansas	Florida	M0238220	011	206	0.983	0.011	-0.017	0.106	0.874	0.039	0.039	A	
3	Kansas	Florida	M0240270	012	218	1.281	3.562	0.248	0.127	0.051	-0.582	0.582	A	
3	Kansas	Florida	M0240940	013	191	1.650	14.876	0.501	0.129	0.000	-1.177	1.177	B	Referent
3	Kansas	Florida	M0273590	014	202	1.156	1.927	0.145	0.101	0.151	-0.340	0.340	A	
3	Kansas	Florida	M0400410	015	218	0.664	7.493	-0.409	0.146	0.005	0.961	0.961	A	
3	Kansas	Florida	M0414980	016	206	1.671	27.195	0.514	0.098	0.000	-1.207	1.207	B	Referent
3	Kansas	Florida	M0438120	017	201	1.251	6.145	0.224	0.089	0.012	-0.526	0.526	A	
3	Kansas	Hawaii	M0005010	001	183	0.668	4.478	-0.404	0.186	0.030	0.948	0.948	A	
3	Kansas	Hawaii	M0010190	002	186	1.939	12.608	0.662	0.182	0.000	-1.556	1.556	C	Referent
3	Kansas	Hawaii	M0011010	003	195	0.691	6.590	-0.370	0.141	0.009	0.869	0.869	A	
3	Kansas	Hawaii	M0103780	004	202	0.653	9.066	-0.426	0.139	0.002	1.002	1.002	B	Focal
3	Kansas	Hawaii	M0107870	005	182	1.320	3.136	0.277	0.150	0.064	-0.652	0.652	A	
3	Kansas	Hawaii	M0112090	006	210	0.713	3.752	-0.339	0.167	0.043	0.796	0.796	A	
3	Kansas	Hawaii	M0205110	007	187	2.003	13.192	0.694	0.189	0.000	-1.632	1.632	C	Referent
3	Kansas	Hawaii	M0212600	008	192	1.168	1.080	0.155	0.140	0.266	-0.365	0.365	A	
3	Kansas	Hawaii	M0235410	009	184	1.179	0.649	0.164	0.183	0.369	-0.386	0.386	A	
3	Kansas	Hawaii	M0237420	010	198	1.092	0.356	0.088	0.132	0.507	-0.206	0.206	A	
3	Kansas	Hawaii	M0237960	011	210	0.801	1.612	-0.222	0.165	0.177	0.522	0.522	A	
3	Kansas	Hawaii	M0238330	012	195	1.514	8.831	0.415	0.137	0.002	-0.974	0.974	A	
3	Kansas	Hawaii	M0238590	013	196	0.858	1.166	-0.154	0.134	0.251	0.361	0.361	A	
3	Kansas	Hawaii	M0238670	014	193	1.308	2.917	0.269	0.150	0.074	-0.632	0.632	A	
3	Kansas	Hawaii	M0238730	015	211	1.125	0.223	0.117	0.207	0.570	-0.276	0.276	A	
3	Kansas	Hawaii	M0240270	016	214	0.988	0.002	-0.012	0.202	0.954	0.027	0.027	A	
3	Kansas	Hawaii	M0240940	017	191	0.896	0.367	-0.109	0.160	0.493	0.257	0.257	A	
3	Kansas	Hawaii	M0260740	018	219	0.785	1.092	-0.242	0.209	0.248	0.568	0.568	A	
3	Kansas	Hawaii	M0272210	019	186	1.096	0.211	0.092	0.169	0.586	-0.216	0.216	A	

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3	Kansas	Hawaii	M0272560	020	205	0.584	13.088	-0.538	0.146	0.000	1.264	1.264	B	Focal
3	Kansas	Hawaii	M0272580	021	188	1.440	4.811	0.365	0.160	0.023	-0.857	0.857	A	
3	Kansas	Hawaii	M0272700	022	204	0.587	14.016	-0.532	0.141	0.000	1.250	1.250	B	Focal
3	Kansas	Hawaii	M0272960	023	197	1.212	1.740	0.193	0.139	0.167	-0.453	0.453	A	
3	Kansas	Hawaii	M0273210	024	204	0.985	0.001	-0.015	0.147	0.919	0.035	0.035	A	
3	Kansas	Hawaii	M0273570	025	204	0.589	14.141	-0.529	0.138	0.000	1.243	1.243	B	Focal
3	Kansas	Hawaii	M0274000	026	210	0.877	0.406	-0.131	0.180	0.467	0.308	0.308	A	
3	Ohio	Florida	M0249320	001	203	1.656	28.247	0.504	0.094	0.000	-1.185	1.185	B	Referent
3	Ohio	Florida	M0260660	002	211	0.933	0.423	-0.069	0.099	0.485	0.163	0.163	A	
3	Ohio	Florida	M0272690	003	190	1.784	16.737	0.579	0.140	0.000	-1.361	1.361	B	Referent
3	Ohio	Florida	M0276430	004	208	0.832	3.353	-0.184	0.098	0.061	0.433	0.433	A	
3	Ohio	Florida	M0276850	005	196	1.001	0.002	0.001	0.101	0.995	-0.001	0.001	A	
3	Ohio	Florida	M0277160	006	183	3.651	51.727	1.295	0.187	0.000	-3.043	3.043	C	Referent
3	Ohio	Florida	M0277400	007	212	0.567	26.926	-0.568	0.109	0.000	1.334	1.334	B	Focal
3	Ohio	Florida	M0406470	008	212	0.979	0.023	-0.021	0.104	0.840	0.049	0.049	A	
3	Ohio	Florida	M0418550	009	212	0.784	5.341	-0.244	0.103	0.018	0.573	0.573	A	
3	Ohio	Florida	M0438480	010	204	0.946	0.338	-0.056	0.090	0.531	0.132	0.132	A	
3	Ohio	Florida	M0438550	011	190	1.491	10.012	0.400	0.126	0.002	-0.939	0.939	A	
3	Ohio	Florida	M0520710	012	204	1.254	6.217	0.226	0.089	0.011	-0.532	0.532	A	
4	Idaho	Florida	M0011950	001	190	2.547	24.976	0.935	0.191	0.000	-2.197	2.197	C	Referent
4	Idaho	Florida	M0217300	002	199	1.255	3.040	0.227	0.126	0.073	-0.534	0.534	A	
4	Idaho	Florida	M0277100	003	204	0.931	0.308	-0.071	0.116	0.541	0.167	0.167	A	
4	Idaho	Florida	M0277700	004	189	1.945	14.726	0.665	0.173	0.000	-1.564	1.564	C	Referent
4	Idaho	Florida	M0400250	005	202	1.298	5.148	0.261	0.112	0.020	-0.612	0.612	A	
4	Idaho	Florida	M0401460	006	215	1.179	1.419	0.165	0.131	0.208	-0.387	0.387	A	
4	Idaho	Florida	M0408820	007	197	1.903	13.511	0.643	0.174	0.000	-1.512	1.512	C	Referent
4	Idaho	Florida	M0411790	008	203	1.018	0.005	0.017	0.130	0.893	-0.041	0.041	A	
4	Idaho	Florida	M0412250	009	224	0.725	7.617	-0.322	0.115	0.005	0.757	0.757	A	
4	Idaho	Florida	M0423260	010	194	0.478	12.804	-0.739	0.203	0.000	1.736	1.736	C	Focal
4	Idaho	Florida	M0428090	011	201	1.130	0.455	0.122	0.162	0.450	-0.288	0.288	A	
4	Idaho	Florida	M0428470	012	218	1.540	11.867	0.432	0.123	0.000	-1.014	1.014	B	Referent
4	Idaho	Florida	M0432450	013	210	0.600	15.248	-0.510	0.129	0.000	1.199	1.199	B	Focal
4	Idaho	Florida	M0435640	014	210	0.690	9.814	-0.371	0.117	0.002	0.872	0.872	A	
4	Idaho	Florida	M0438260	015	190	0.615	16.749	-0.486	0.118	0.000	1.142	1.142	B	Focal
4	Idaho	Florida	M0448000	016	223	4.302	103.289	1.459	0.148	0.000	-3.429	3.429	C	Referent
4	Idaho	Florida	M0292340	017	210	0.349	27.301	-1.054	0.202	0.000	2.477	2.477	C	Focal

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4	Ohio	Florida	M0209730	001	207	1.691	21.352	0.525	0.113	0.000	-1.234	1.234	B	Referent
4	Ohio	Florida	M0274780	002	231	0.807	1.366	-0.214	0.170	0.207	0.504	0.504	A	
4	Ohio	Florida	M0277610	003	198	0.867	0.835	-0.142	0.145	0.326	0.335	0.335	A	
4	Ohio	Florida	M0400300	004	207	1.223	2.846	0.201	0.116	0.082	-0.473	0.473	A	
4	Ohio	Florida	M0403370	005	205	0.848	1.957	-0.165	0.113	0.146	0.387	0.387	A	
4	Ohio	Florida	M0403510	006	225	0.777	1.049	-0.252	0.222	0.256	0.593	0.593	A	
4	Ohio	Florida	M0403620	007	210	0.923	0.361	-0.081	0.122	0.508	0.189	0.189	A	
4	Ohio	Florida	M0404280	008	197	1.393	3.788	0.331	0.163	0.043	-0.778	0.778	A	
4	Ohio	Florida	M0443250	009	203	1.109	0.675	0.103	0.117	0.378	-0.243	0.243	A	
4	Ohio	Florida	M0443430	010	216	0.572	16.164	-0.559	0.138	0.000	1.315	1.315	B	Focal
4	Ohio	Florida	M0444040	011	216	0.581	18.292	-0.542	0.125	0.000	1.275	1.275	B	Focal
4	Ohio	Hawaii	M0010180	001	204	2.341	24.948	0.851	0.172	0.000	-1.999	1.999	C	Referent
4	Ohio	Hawaii	M0107140	002	219	1.007	0.004	0.007	0.198	0.972	-0.016	0.016	A	
4	Ohio	Hawaii	M0241880	003	220	0.439	11.580	-0.824	0.237	0.001	1.936	1.936	C	Focal
4	Ohio	Hawaii	M0242640	004	231	0.907	0.056	-0.098	0.264	0.712	0.229	0.229	A	
4	Ohio	Hawaii	M0246000	005	207	1.026	0.006	0.026	0.165	0.874	-0.061	0.061	A	
4	Ohio	Hawaii	M0248670	006	197	1.156	0.443	0.145	0.190	0.446	-0.340	0.340	A	
4	Ohio	Hawaii	M0273320	007	205	1.196	0.951	0.179	0.169	0.289	-0.421	0.421	A	
4	Ohio	Hawaii	M0274200	008	192	3.236	29.666	1.174	0.217	0.000	-2.759	2.759	C	Referent
4	Ohio	Hawaii	M02E0520	009	198	0.733	2.149	-0.310	0.197	0.116	0.729	0.729	A	
4	Ohio	Hawaii	M02E2610	010	197	2.874	34.929	1.056	0.180	0.000	-2.480	2.480	C	Referent
5	Idaho	Florida	M0011680	001	214	1.002	0.001	0.002	0.109	0.984	-0.005	0.005	A	
5	Idaho	Florida	M0209890	002	218	0.716	9.301	-0.334	0.107	0.002	0.784	0.784	A	
5	Idaho	Florida	M0210710	003	216	0.785	3.588	-0.242	0.124	0.051	0.569	0.569	A	
5	Idaho	Florida	M0210860	004	195	0.928	0.187	-0.074	0.147	0.614	0.175	0.175	A	
5	Idaho	Florida	M0211710	005	195	1.883	19.487	0.633	0.142	0.000	-1.487	1.487	B	Referent
5	Idaho	Florida	M0246550	006	218	0.957	0.130	-0.044	0.106	0.680	0.103	0.103	A	
5	Idaho	Florida	M0276400	007	203	1.701	19.759	0.531	0.118	0.000	-1.248	1.248	B	Referent
5	Idaho	Florida	M0276730	008	223	0.398	34.474	-0.922	0.156	0.000	2.166	2.166	C	Focal
5	Idaho	Florida	M0276770	009	198	0.960	0.049	-0.041	0.140	0.770	0.096	0.096	A	
5	Idaho	Florida	M0277220	010	196	2.681	37.919	0.986	0.163	0.000	-2.317	2.317	C	Referent
5	Idaho	Florida	M0277390	011	206	1.263	2.902	0.234	0.132	0.076	-0.549	0.549	A	
5	Idaho	Florida	M02E1500	012	211	1.259	4.215	0.230	0.109	0.035	-0.541	0.541	A	
5	Idaho	Florida	M0407700	013	194	2.033	26.649	0.710	0.137	0.000	-1.668	1.668	C	Referent
5	Idaho	Florida	M0414180	014	232	0.754	2.114	-0.283	0.183	0.122	0.665	0.665	A	
5	Idaho	Florida	M0431460	015	224	0.915	0.213	-0.089	0.165	0.589	0.210	0.210	A	

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5	Idaho	Florida	M0436020	016	198	1.643	13.064	0.497	0.136	0.000	-1.167	1.167	B	Referent
5	Idaho	Florida	M0438860	017	204	2.761	68.130	1.016	0.124	0.000	-2.387	2.387	C	Referent
5	Kansas	Florida	M0011240	001	211	1.599	14.793	0.469	0.121	0.000	-1.102	1.102	B	Referent
5	Kansas	Florida	M0011360	002	199	2.698	61.185	0.993	0.128	0.000	-2.333	2.333	C	Referent
5	Kansas	Florida	M0011590	003	196	1.212	1.191	0.192	0.163	0.238	-0.451	0.451	A	
5	Kansas	Florida	M0012050	004	226	1.097	0.278	0.093	0.154	0.548	-0.218	0.218	A	
5	Kansas	Florida	M0012280	005	208	1.382	8.519	0.324	0.110	0.003	-0.761	0.761	A	
5	Kansas	Florida	M0015070	006	226	1.002	0.003	0.002	0.140	0.987	-0.006	0.006	A	
5	Kansas	Florida	M0101850	007	221	0.977	0.009	-0.023	0.141	0.870	0.054	0.054	A	
5	Kansas	Florida	M0108040	008	229	0.659	6.933	-0.417	0.154	0.007	0.981	0.981	A	
5	Kansas	Florida	M0208680	009	218	0.607	16.688	-0.499	0.121	0.000	1.172	1.172	B	Focal
5	Kansas	Florida	M0210420	010	227	0.903	0.317	-0.102	0.159	0.521	0.240	0.240	A	
5	Kansas	Florida	M0243490	011	210	1.312	5.570	0.271	0.112	0.016	-0.637	0.637	A	
5	Kansas	Florida	M0248020	012	194	2.158	20.788	0.769	0.168	0.000	-1.808	1.808	C	Referent
5	Kansas	Florida	M0400230	013	200	1.468	7.151	0.384	0.140	0.006	-0.902	0.902	A	
5	Kansas	Florida	M0405160	014	221	0.746	4.350	-0.292	0.135	0.031	0.687	0.687	A	
5	Kansas	Florida	M0429840	015	231	0.810	1.336	-0.210	0.171	0.218	0.495	0.495	A	
5	Kansas	Florida	M0437640	016	202	1.627	14.845	0.487	0.125	0.000	-1.145	1.145	B	Referent
5	Kansas	Hawaii	M0011240	001	211	0.985	0.001	-0.015	0.207	0.943	0.035	0.035	A	
5	Kansas	Hawaii	M0015070	002	226	1.621	3.319	0.483	0.250	0.054	-1.135	1.135	A	
5	Kansas	Hawaii	M0108040	003	229	0.637	2.216	-0.451	0.275	0.101	1.060	1.060	A	
5	Kansas	Hawaii	M0210420	004	227	1.303	0.625	0.264	0.285	0.354	-0.621	0.621	A	
5	Kansas	Hawaii	M0210490	005	216	1.066	0.078	0.064	0.175	0.713	-0.151	0.151	A	
5	Kansas	Hawaii	M0210870	006	203	1.681	5.299	0.519	0.215	0.016	-1.220	1.220	B	Referent
5	Kansas	Hawaii	M0244210	007	212	2.482	19.069	0.909	0.206	0.000	-2.137	2.137	C	Referent
5	Kansas	Hawaii	M0244560	008	209	1.092	0.118	0.088	0.198	0.657	-0.206	0.206	A	
5	Kansas	Hawaii	M0244660	009	218	0.948	0.040	-0.053	0.184	0.773	0.125	0.125	A	
5	Kansas	Hawaii	M0244980	010	220	1.025	0.000	0.025	0.225	0.913	-0.058	0.058	A	
5	Kansas	Hawaii	M0245850	011	210	0.890	0.278	-0.117	0.188	0.534	0.275	0.275	A	
5	Kansas	Hawaii	M0246080	012	206	0.841	0.376	-0.173	0.234	0.234	0.407	0.407	A	
5	Kansas	Hawaii	M0247530	013	215	0.828	0.833	-0.188	0.186	0.311	0.443	0.443	A	
5	Kansas	Hawaii	M0247980	014	201	2.250	10.464	0.811	0.245	0.001	-1.905	1.905	C	Referent
5	Kansas	Hawaii	M0249290	015	233	1.175	0.175	0.162	0.285	0.571	-0.380	0.380	A	
5	Kansas	Hawaii	M0249490	016	205	1.208	0.619	0.189	0.212	0.372	-0.445	0.445	A	
6	Idaho	Florida	M0400540	001	226	7.499	65.625	2.015	0.274	0.000	-4.735	4.735	C	Referent
6	Idaho	Florida	M0400560	002	228	0.395	17.925	-0.929	0.216	0.000	2.184	2.184	C	Focal

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6	Idaho	Florida	M0400880	003	214	1.303	2.947	0.265	0.148	0.073	-0.622	0.622	A	
6	Idaho	Florida	M0403090	004	216	1.378	4.692	0.321	0.144	0.026	-0.754	0.754	A	
6	Idaho	Florida	M0406140	005	231	0.874	0.164	-0.135	0.255	0.596	0.317	0.317	A	
6	Idaho	Florida	M0407100	006	221	0.878	0.737	-0.130	0.140	0.353	0.306	0.306	A	
6	Idaho	Florida	M0413970	007	204	1.061	0.105	0.059	0.149	0.691	-0.139	0.139	A	
6	Idaho	Florida	M0413990	008	230	0.712	1.195	-0.339	0.274	0.215	0.797	0.797	A	
6	Idaho	Florida	M0414260	009	222	0.945	0.091	-0.057	0.150	0.705	0.134	0.134	A	
6	Idaho	Florida	M0420520	010	205	1.877	15.200	0.630	0.159	0.000	-1.480	1.480	B	Referent
6	Idaho	Florida	M0422260	011	234	0.830	0.378	-0.186	0.253	0.463	0.437	0.437	A	
6	Idaho	Florida	M0428760	012	232	0.691	2.064	-0.370	0.237	0.118	0.870	0.870	A	
6	Idaho	Florida	M0443480	013	218	1.053	0.081	0.052	0.146	0.722	-0.122	0.122	A	
6	Ohio	Florida	M0113120	001	210	1.598	9.443	0.468	0.149	0.002	-1.101	1.101	B	Referent
6	Ohio	Florida	M02E2660	002	221	1.776	12.307	0.574	0.161	0.000	-1.349	1.349	B	Referent
6	Ohio	Florida	M0403080	003	214	1.356	3.689	0.305	0.154	0.048	-0.716	0.716	A	
6	Ohio	Florida	M0414530	004	223	0.931	0.164	-0.072	0.149	0.631	0.168	0.168	A	
6	Ohio	Florida	M0420600	005	221	0.795	2.270	-0.230	0.146	0.115	0.540	0.540	A	
6	Ohio	Florida	M0423870	006	214	0.665	7.704	-0.408	0.144	0.005	0.958	0.958	A	
6	Ohio	Florida	M0425350	007	207	2.135	25.219	0.759	0.151	0.000	-1.783	1.783	C	Referent
6	Ohio	Florida	M0436710	008	223	1.006	0.002	0.006	0.158	0.971	-0.013	0.013	A	
6	Ohio	Florida	M0439670	009	202	2.032	18.190	0.709	0.165	0.000	-1.666	1.666	C	Referent
6	Ohio	Florida	M0444900	010	212	1.088	0.278	0.084	0.141	0.550	-0.197	0.197	A	
6	Ohio	Hawaii	M0000770	001	236	0.561	3.533	-0.578	0.286	0.044	1.358	1.358	B	Focal
6	Ohio	Hawaii	M0112600	002	226	0.888	0.242	-0.119	0.202	0.557	0.279	0.279	A	
6	Ohio	Hawaii	M0113120	003	210	1.871	9.396	0.627	0.198	0.002	-1.473	1.473	B	Referent
6	Ohio	Hawaii	M0207960	004	222	1.365	2.581	0.311	0.184	0.091	-0.732	0.732	A	
6	Ohio	Hawaii	M0209010	005	218	2.013	15.369	0.699	0.178	0.000	-1.644	1.644	C	Referent
6	Ohio	Hawaii	M0210540	006	230	0.766	0.937	-0.266	0.243	0.274	0.626	0.626	A	
6	Ohio	Hawaii	M0252700	007	232	0.714	1.371	-0.337	0.260	0.194	0.792	0.792	A	
6	Ohio	Hawaii	M0270050	008	230	0.878	0.152	-0.130	0.251	0.604	0.305	0.305	A	
6	Ohio	Hawaii	M0274790	009	215	0.964	0.001	-0.037	0.240	0.879	0.086	0.086	A	
6	Ohio	Hawaii	M0275370	010	227	0.963	0.003	-0.038	0.226	0.867	0.089	0.089	A	
6	Ohio	Hawaii	M0443480	011	218	1.618	5.793	0.481	0.193	0.013	-1.131	1.131	B	Referent
7	Idaho	Florida	M0102670	001	220	1.664	8.743	0.509	0.168	0.002	-1.196	1.196	B	Referent
7	Idaho	Florida	M0227320	002	231	0.748	1.830	-0.290	0.200	0.147	0.682	0.682	A	
7	Idaho	Florida	M0401540	003	237	0.635	1.794	-0.454	0.309	0.141	1.067	1.067	A	
7	Idaho	Florida	M0402100	004	225	1.484	4.970	0.395	0.172	0.022	-0.927	0.927	A	

Table 1. Mantel-Haenszel Analysis

Grade	Adaptive Eng Pool	Fixed length Span/Eng Pool	ItemID	item	Bank Calib	Odds ratio	M-H Chi sq	log-odds ratio	SE log-odds ratio	M-H Chi SQ P-value	ETS delta (D-DIF)	ABS ETS delta	ETS classification	Group Favored
7	Idaho	Florida	M0403770	005	234	0.197	9.089	0.523	0.002	0.071	-1.228	1.228	A	
7	Idaho	Florida	M0408520	006	209	2.439	20.073	0.892	0.197	0.000	-2.095	2.095	C	Referent
7	Idaho	Florida	M0413400	007	225	0.945	0.068	-0.057	0.165	0.731	0.133	0.133	A	
7	Idaho	Florida	M0415800	008	225	0.722	3.799	-0.326	0.160	0.042	0.766	0.766	A	
7	Idaho	Florida	M0415950	009	218	2.415	26.355	0.882	0.171	0.000	-2.072	2.072	C	Referent
7	Idaho	Florida	M0420690	010	226	0.684	3.470	-0.379	0.195	0.051	0.892	0.892	A	
7	Idaho	Florida	M0430230	011	250	1.043	0.146	0.042	0.869	0.962	-0.098	0.098	A	
7	Idaho	Florida	M0431320	012	206	2.199	8.735	0.788	0.260	0.002	-1.852	1.852	C	Referent
7	Idaho	Florida	M0439560	013	224	0.849	0.798	-0.164	0.169	0.332	0.384	0.384	A	
7	Idaho	Florida	M0501310	014	247	0.474	1.997	-0.747	0.466	0.109	1.754	1.754	A	
7	Kansas	Florida	M0209370	001	225	1.008	0.001	0.008	0.167	0.963	-0.018	0.018	A	
7	Kansas	Florida	M0400630	002	242	0.608	3.073	-0.497	0.263	0.059	1.168	1.168	A	
7	Kansas	Florida	M0402250	003	240	1.611	1.873	0.477	0.312	0.127	-1.120	1.120	A	
7	Kansas	Florida	M0402270	004	221	1.239	1.562	0.214	0.162	0.185	-0.503	0.503	A	
7	Kansas	Florida	M0402280	005	235	1.798	4.444	0.587	0.262	0.025	-1.378	1.378	B	Referent
7	Kansas	Florida	M0404740	006	220	1.452	4.341	0.373	0.173	0.031	-0.876	0.876	A	
7	Kansas	Florida	M0408510	007	231	1.142	0.567	0.133	0.160	0.406	-0.312	0.312	A	
7	Kansas	Florida	M0413480	008	216	2.728	29.750	1.004	0.185	0.000	-2.359	2.359	C	Referent
7	Kansas	Florida	M0427040	009	237	1.014	0.004	0.014	0.241	0.954	-0.033	0.033	A	
7	Kansas	Florida	M0430270	010	229	1.361	2.095	0.308	0.199	0.122	-0.725	0.725	A	
7	Kansas	Florida	M0431000	011	215	1.915	10.022	0.650	0.201	0.001	-1.527	1.527	C	Referent
7	Kansas	Florida	M0435740	012	258	1.162	0.000	0.150	0.530	0.777	-0.352	0.352	A	
7	Kansas	Florida	M0501190	013	228	0.991	0.000	-0.009	0.158	0.953	0.022	0.022	A	
8	Ohio	Florida	M0014440	001	222	1.159	0.542	0.147	0.178	0.409	-0.346	0.346	A	
8	Ohio	Florida	M0207830	002	231	0.547	12.348	-0.602	0.170	0.000	1.416	1.416	B	Focal
8	Ohio	Florida	M0217120	003	216	2.004	10.290	0.695	0.210	0.001	-1.634	1.634	C	Referent
8	Ohio	Florida	M0229250	004	244	0.329	6.013	-1.113	0.422	0.008	2.615	2.615	C	Focal
8	Ohio	Florida	M0250190	005	244	0.580	1.474	-0.545	0.389	0.161	1.281	1.281	A	
8	Ohio	Florida	M0252210	006	240	0.489	4.067	-0.716	0.338	0.034	1.683	1.683	C	Focal
8	Ohio	Florida	M0270410	007	222	1.046	0.025	0.045	0.181	0.805	-0.105	0.105	A	
8	Ohio	Florida	M0275410	008	210	1.777	7.140	0.575	0.208	0.006	-1.351	1.351	B	Referent
8	Ohio	Florida	M0401000	009	239	0.746	1.404	-0.293	0.225	0.193	0.689	0.689	A	
8	Ohio	Florida	M0410240	010	219	4.421	59.298	1.486	0.196	0.000	-3.493	3.493	C	Referent
8	Ohio	Florida	M0411190	011	215	1.477	3.194	0.390	0.206	0.058	-0.916	0.916	A	
8	Ohio	Florida	M0441450	012	224	1.348	2.419	0.299	0.183	0.103	-0.702	0.702	A	
8	Ohio	Florida	M0442440	013	210	1.752	5.668	0.561	0.226	0.013	-1.317	1.317	B	Referent

Table 1. Mantel-Haenszel Analysis

Grade	Adaptive Eng Pool	Fixed length Span/Eng Pool	ItemID	item	Bank Calib	Odds ratio	M-H Chi sq	log-odds ratio	SE log-odds ratio	M-H Chi SQ P-value	ETS delta (D-DIF)	ABS ETS delta	ETS classification	Group Favored
8	Kansas	Florida	M0000610	001	220	0.599	6.373	-0.512	0.196	0.009	1.203	1.203	B	Focal
8	Kansas	Florida	M0106230	002	238	0.592	1.858	-0.524	0.346	0.130	1.233	1.233	A	
8	Kansas	Florida	M0207290	003	237	0.280	18.072	-1.273	0.292	0.000	2.993	2.993	C	Focal
8	Kansas	Florida	M0207800	004	225	1.254	1.368	0.227	0.180	0.209	-0.533	0.533	A	
8	Kansas	Florida	M0221870	005	226	1.061	0.060	0.059	0.178	0.739	-0.140	0.140	A	
8	Kansas	Florida	M0252680	006	230	0.490	13.121	-0.713	0.193	0.000	1.676	1.676	C	Focal
8	Kansas	Florida	M0414010	007	249	2.953	3.568	1.083	0.514	0.035	-2.545	2.545	C	Referent
8	Kansas	Florida	M0415930	008	212	0.734	2.060	-0.309	0.201	0.123	0.727	0.727	A	
8	Kansas	Florida	M0415960	009	223	1.083	0.113	0.080	0.186	0.667	-0.188	0.188	A	
8	Kansas	Florida	M0424000	010	218	2.584	24.816	0.949	0.189	0.000	-2.231	2.231	C	Referent
8	Kansas	Florida	M0441560	011	243	0.538	1.292	-0.620	0.456	0.174	1.458	1.458	A	
8	Kansas	Florida	M0443820	012	235	0.743	1.973	-0.297	0.197	0.133	0.697	0.697	A	
8	Kansas	Florida	M0502350	013	230	0.827	1.053	-0.190	0.171	0.266	0.448	0.448	A	
8	Idaho	Florida	M0107350	001	237	0.666	3.493	-0.406	0.207	0.050	0.954	0.954	A	
8	Idaho	Florida	M0107390	002	246	0.795	0.098	-0.230	0.431	0.594	0.540	0.540	A	
8	Idaho	Florida	M0111310	003	218	1.316	2.165	0.275	0.177	0.121	-0.646	0.646	A	
8	Idaho	Florida	M0205700	004	245	0.579	2.164	-0.546	0.334	0.102	1.282	1.282	A	
8	Idaho	Florida	M0207350	005	229	1.283	1.630	0.249	0.182	0.172	-0.586	0.586	A	
8	Idaho	Florida	M0208290	006	228	1.021	0.000	0.021	0.188	0.912	-0.049	0.049	A	
8	Idaho	Florida	M0209191	007	237	0.482	7.660	-0.729	0.254	0.004	1.714	1.714	C	Focal
8	Idaho	Florida	M0214010	008	230	1.398	3.036	0.335	0.184	0.068	-0.788	0.788	A	
8	Idaho	Florida	M0214870	009	232	0.955	0.032	-0.046	0.174	0.789	0.109	0.109	A	
8	Idaho	Florida	M0250920	010	233	0.939	0.071	-0.062	0.176	0.723	0.147	0.147	A	
8	Idaho	Florida	M0251770	011	240	0.570	4.363	-0.562	0.256	0.028	1.320	1.320	B	Focal
8	Idaho	Florida	M0251791	012	213	1.252	1.263	0.225	0.185	0.223	-0.529	0.529	A	
8	Idaho	Florida	M0252410	013	224	2.303	18.463	0.834	0.193	0.000	-1.960	1.960	C	Referent
8	Idaho	Florida	M0400980	014	217	1.523	4.479	0.421	0.191	0.028	-0.989	0.989	A	
8	Idaho	Florida	M0411030	015	219	2.932	29.920	1.076	0.200	0.000	-2.528	2.528	C	Referent
8	Idaho	Florida	M0411150	016	224	2.292	22.141	0.830	0.175	0.000	-1.950	1.950	C	Referent
8	Idaho	Florida	M0413790	017	228	0.994	0.003	-0.006	0.174	0.972	0.014	0.014	A	
8	Idaho	Florida	M0443060	018	214	2.148	17.085	0.765	0.183	0.000	-1.797	1.797	C	Referent
8	Idaho	Florida	M0444920	019	216	3.830	47.340	1.343	0.198	0.000	-3.156	3.156	C	Referent
10	Kansas	Florida	M0014450	001	230	1.027	0.013	0.026	0.143	0.853	-0.062	0.062	A	
10	Kansas	Florida	M0206390	002	236	0.951	0.032	-0.050	0.186	0.789	0.117	0.117	A	
10	Kansas	Florida	M0206420	003	227	1.881	17.045	0.632	0.150	0.000	-1.485	1.485	B	Referent
10	Kansas	Florida	M0213580	004	234	1.068	0.140	0.066	0.147	0.653	-0.155	0.155	A	

Table 1. Mantel-Haenszel Analysis

Grade	Adaptive Eng Pool	Fixed length Span/Eng Pool	ItemID	item	Bank Calib	Odds ratio	M-H Chi sq	log-odds ratio	SE log-odds ratio	M-H Chi SQ P-value	ETS delta (D-DIF)	ABS ETS delta	ETS classification	Group Favored
10	Kansas	Florida	M0213750	005	240	0.899	0.346	-0.106	0.160	0.506	0.250	0.250	A	
10	Kansas	Florida	M0213800	006	226	0.708	5.207	-0.345	0.146	0.019	0.810	0.810	A	
10	Kansas	Florida	M0214150	007	231	1.251	1.571	0.224	0.169	0.184	-0.527	0.527	A	
10	Kansas	Florida	M0215440	008	243	1.235	0.876	0.211	0.206	0.304	-0.497	0.497	A	
10	Kansas	Florida	M0224100	009	225	1.965	18.935	0.676	0.154	0.000	-1.588	1.588	C	Referent
10	Kansas	Florida	M0225300	010	222	0.937	0.123	-0.065	0.152	0.669	0.153	0.153	A	
10	Kansas	Florida	M0418370	011	216	3.461	41.772	1.242	0.199	0.000	-2.918	2.918	C	Referent
10	Kansas	Florida	M0433880	012	226	0.952	0.059	-0.050	0.155	0.749	0.116	0.116	A	
10	Kansas	Florida	M0436810	013	232	0.709	4.969	-0.343	0.149	0.022	0.807	0.807	A	
10	Ohio	Florida	M0110080	001	226	0.985	0.000	-0.015	0.156	0.924	0.035	0.035	A	
10	Ohio	Florida	M0206510	002	227	1.504	6.930	0.408	0.151	0.007	-0.959	0.959	A	
10	Ohio	Florida	M0212980	003	236	0.742	3.173	-0.298	0.160	0.063	0.701	0.701	A	
10	Ohio	Florida	M0213180	004	229	1.225	1.404	0.203	0.160	0.204	-0.477	0.477	A	
10	Ohio	Florida	M0213810	005	250	1.327	0.509	0.283	0.326	0.385	-0.665	0.665	A	
10	Ohio	Florida	M0224220	006	216	3.243	6.985	1.176	0.425	0.006	-2.765	2.765	C	Referent
10	Ohio	Florida	M0278960	007	226	1.443	5.400	0.367	0.152	0.016	-0.862	0.862	A	
10	Ohio	Florida	M0401780	008	222	1.309	2.164	0.269	0.173	0.120	-0.632	0.632	A	
10	Ohio	Florida	M0401990	009	240	0.757	2.241	-0.278	0.177	0.116	0.653	0.653	A	
10	Ohio	Florida	M0402620	010	235	0.999	0.005	-0.001	0.157	0.995	0.002	0.002	A	
10	Ohio	Florida	M0427970	011	239	0.855	0.867	-0.157	0.156	0.315	0.369	0.369	A	
10	Ohio	Florida	M0441830	012	233	1.460	4.642	0.378	0.170	0.026	-0.889	0.889	A	
10	Ohio	Florida	M0442920	013	225	1.820	14.049	0.599	0.157	0.000	-1.407	1.407	B	Referent
10	Ohio	Florida	M0442970	014	243	0.524	8.253	-0.646	0.218	0.003	1.518	1.518	C	Focal
10	Ohio	Florida	M0445270	015	230	1.101	0.353	0.096	0.144	0.506	-0.226	0.226	A	
10	Idaho	Florida	M0200600	001	218	6.127	110.229	1.813	0.184	0.000	-4.260	4.260	C	Referent
10	Idaho	Florida	M0206470	002	246	0.583	3.552	-0.539	0.271	0.046	1.266	1.266	B	Focal
10	Idaho	Florida	M0213270	003	235	0.812	1.369	-0.208	0.164	0.206	0.488	0.488	A	
10	Idaho	Florida	M0213340	004	255	0.553	2.390	-0.593	0.350	0.090	1.393	1.393	A	
10	Idaho	Florida	M0213390	005	249	0.852	0.235	-0.160	0.259	0.536	0.377	0.377	A	
10	Idaho	Florida	M0214050	006	253	2.035	1.266	0.710	0.531	0.181	-1.670	1.670	A	
10	Idaho	Florida	M0214480	007	240	0.986	0.000	-0.014	0.151	0.927	0.032	0.032	A	
10	Idaho	Florida	M0214490	008	226	2.236	27.528	0.805	0.154	0.000	-1.891	1.891	C	Referent
10	Idaho	Florida	M0214540	009	222	1.805	14.086	0.591	0.155	0.000	-1.388	1.388	B	Referent
10	Idaho	Florida	M0221890	010	225	2.537	34.394	0.931	0.159	0.000	-2.188	2.188	C	Referent
10	Idaho	Florida	M0224100	011	220	5.822	82.923	1.762	0.200	0.000	-4.140	4.140	C	Referent
10	Idaho	Florida	M0271810	012	244	0.495	11.054	-0.702	0.212	0.001	1.650	1.650	C	Focal

Table 1. Mantel-Haenszel Analysis

Grade	Adaptive Eng Pool	Fixed length Span/Eng Pool	ItemID	item	Bank Calib	Odds ratio	M-H Chi sq	log-odds ratio	SE log-odds ratio	M-H Chi SQ P-value	ETS delta (D-DIF)	ABS ETS delta	ETS classification	Group Favored
10	Idaho	Florida	M02E2240	013	225	1.534	7.392	0.428	0.153	0.005	-1.005	1.005	B	Referent
10	Idaho	Florida	M0401910	014	234	2.276	26.163	0.822	0.160	0.000	-1.932	1.932	C	Referent
10	Idaho	Florida	M0425740	015	227	1.671	10.916	0.514	0.154	0.001	-1.207	1.207	B	Referent
10	Idaho	Florida	M0426000	016	234	0.734	4.614	-0.309	0.140	0.027	0.727	0.727	A	
10	Idaho	Florida	M0436580	017	244	0.831	0.377	-0.186	0.247	0.453	0.436	0.436	A	
10	Idaho	Florida	M0439810	018	236	0.680	7.082	-0.385	0.141	0.006	0.905	0.905	A	
10	Idaho	Florida	M0439970	019	249	0.450	3.289	-0.799	0.401	0.046	1.878	1.878	C	Focal
10	Idaho	Florida	M0440000	020	209	3.209	34.228	1.166	0.203	0.000	-2.740	2.740	C	Referent
10	Idaho	Florida	M0441650	021	224	1.100	0.283	0.096	0.157	0.542	-0.224	0.224	A	
10	Idaho	Florida	M0441680	022	229	0.770	2.991	-0.261	0.145	0.072	0.613	0.613	A	

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0010960	001	0.152	0.181	0.181	0.028	21.796	0.191	21.987	0.000	0.662	0.000
M0011010	002	0.108	0.109	0.114	0.005	0.316	4.180	4.497	0.574	0.041	0.106
M0103780	003	0.191	0.194	0.205	0.014	3.142	10.731	13.873	0.076	0.001	0.001
M0104060	004	0.071	0.126	0.126	0.056	45.845	0.373	46.218	0.000	0.541	0.000
M0107870	005	0.076	0.106	0.107	0.031	22.978	0.999	23.977	0.000	0.318	0.000
M0112090	006	0.069	0.070	0.079	0.010	0.191	5.763	5.954	0.662	0.016	0.051
M0212460	007	0.100	0.101	0.101	0.001	0.396	0.155	0.551	0.529	0.693	0.759
M0212550	008	0.089	0.089	0.090	0.001	0.054	0.609	0.663	0.815	0.435	0.718
M0237291	009	0.178	0.178	0.179	0.001	0.346	0.166	0.512	0.556	0.684	0.774
M0237710	010	0.125	0.134	0.134	0.010	5.301	0.183	5.484	0.021	0.669	0.064
M0238220	011	0.151	0.151	0.153	0.001	0.001	0.867	0.868	0.981	0.352	0.648
M0240270	012	0.064	0.069	0.071	0.007	2.593	0.896	3.489	0.107	0.344	0.175
M0240940	013	0.117	0.148	0.148	0.031	21.098	0.248	21.346	0.000	0.619	0.000
M0273590	014	0.152	0.152	0.155	0.003	0.033	1.984	2.017	0.855	0.159	0.365
M0400410	015	0.182	0.193	0.193	0.011	5.228	0.014	5.242	0.022	0.905	0.073
M0414980	016	0.163	0.186	0.196	0.034	18.350	8.136	26.486	0.000	0.004	0.000
M0438120	017	0.185	0.189	0.190	0.005	3.702	1.074	4.776	0.054	0.300	0.092
M0005010	001	0.079	0.079	0.094	0.015	0.030	6.628	6.658	0.863	0.010	0.036
M0010190	002	0.164	0.176	0.176	0.013	6.379	0.091	6.470	0.012	0.762	0.039
M0011010	003	0.139	0.143	0.145	0.006	2.757	0.780	3.537	0.097	0.377	0.171
M0103780	004	0.221	0.221	0.238	0.018	0.142	13.225	13.367	0.706	0.000	0.001
M0107870	005	0.047	0.050	0.060	0.013	1.285	5.909	7.194	0.257	0.015	0.027
M0112090	006	0.129	0.130	0.131	0.001	0.156	0.436	0.592	0.692	0.509	0.744
M0205110	007	0.151	0.195	0.201	0.050	20.852	2.902	23.753	0.000	0.088	0.000
M0212600	008	0.053	0.059	0.061	0.008	3.215	1.310	4.525	0.073	0.252	0.104
M0235410	009	0.161	0.169	0.175	0.014	4.117	2.482	6.599	0.042	0.115	0.037
M0237420	010	0.164	0.176	0.176	0.012	8.760	0.260	9.019	0.003	0.610	0.011
M0237960	011	0.163	0.167	0.170	0.007	2.066	1.800	3.866	0.151	0.180	0.145
M0238330	012	0.136	0.176	0.176	0.040	26.265	0.113	26.379	0.000	0.736	0.000
M0238590	013	0.193	0.195	0.201	0.008	1.355	4.194	5.549	0.244	0.041	0.062
M0238670	014	0.116	0.116	0.116	0.000	0.147	0.052	0.200	0.701	0.819	0.905
M0238730	015	0.267	0.272	0.292	0.025	2.745	10.028	12.772	0.098	0.002	0.002
M0240270	016	0.077	0.077	0.081	0.005	0.126	1.767	1.894	0.722	0.184	0.388
M0240940	017	0.195	0.196	0.198	0.002	0.521	0.844	1.365	0.470	0.358	0.505

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0260740	018	0.076	0.076	0.086	0.010	0.041	3.497	3.538	0.839	0.061	0.170
M0272210	019	0.150	0.156	0.162	0.012	3.118	3.112	6.230	0.077	0.078	0.044
M0272560	020	0.265	0.270	0.271	0.006	3.833	0.844	4.677	0.050	0.358	0.096
M0272580	021	0.211	0.221	0.222	0.010	5.861	0.407	6.268	0.015	0.524	0.044
M0272700	022	0.140	0.142	0.145	0.005	1.569	1.814	3.383	0.210	0.178	0.184
M0272960	023	0.198	0.206	0.217	0.019	6.057	7.751	13.808	0.014	0.005	0.001
M0273210	024	0.169	0.174	0.215	0.046	3.590	28.991	32.581	0.058	0.000	0.000
M0273570	025	0.155	0.168	0.175	0.020	9.029	4.920	13.949	0.003	0.027	0.001
M0274000	026	0.141	0.152	0.205	0.064	5.467	27.358	32.824	0.019	0.000	0.000
M0249320	001	0.175	0.191	0.195	0.020	11.424	2.609	14.032	0.001	0.106	0.001
M0260660	002	0.041	0.041	0.047	0.006	0.064	2.771	2.834	0.801	0.096	0.242
M0272690	003	0.011	0.028	0.028	0.017	6.195	0.012	6.207	0.013	0.915	0.045
M0276430	004	0.119	0.120	0.120	0.001	0.369	0.083	0.452	0.543	0.773	0.798
M0276850	005	0.154	0.154	0.160	0.006	0.041	3.382	3.423	0.839	0.066	0.181
M0277160	006	0.051	0.198	0.200	0.149	62.495	1.022	63.516	0.000	0.312	0.000
M0277400	007	0.004	0.054	0.074	0.070	21.633	8.850	30.484	0.000	0.003	0.000
M0406470	008	0.056	0.059	0.060	0.004	1.120	0.651	1.771	0.290	0.420	0.413
M0418550	009	0.106	0.106	0.106	0.001	0.013	0.251	0.264	0.910	0.616	0.876
M0438480	010	0.124	0.125	0.130	0.005	0.388	3.492	3.880	0.533	0.062	0.144
M0438550	011	0.082	0.106	0.107	0.026	10.620	0.480	11.100	0.001	0.488	0.004
M0520710	012	0.133	0.134	0.135	0.001	0.124	0.788	0.912	0.725	0.375	0.634
M0011950	001	0.128	0.186	0.186	0.058	31.938	0.166	32.104	0.000	0.684	0.000
M0217300	002	0.148	0.153	0.154	0.005	3.553	0.227	3.779	0.059	0.634	0.151
M0277100	003	0.043	0.043	0.072	0.030	0.048	18.215	18.263	0.827	0.000	0.000
M0277700	004	0.176	0.191	0.194	0.018	9.604	2.177	11.781	0.002	0.140	0.003
M0400250	005	0.174	0.175	0.176	0.003	0.709	1.472	2.181	0.400	0.225	0.336
M0401460	006	0.091	0.094	0.094	0.004	2.152	0.181	2.332	0.142	0.671	0.312
M0408820	007	0.057	0.085	0.095	0.039	14.310	5.395	19.704	0.000	0.020	0.000
M0411790	008	0.224	0.225	0.230	0.007	0.920	4.034	4.954	0.337	0.045	0.084
M0412250	009	0.159	0.167	0.168	0.009	6.257	0.812	7.069	0.012	0.368	0.029
M0423260	010	0.126	0.194	0.202	0.076	16.666	2.207	18.874	0.000	0.137	0.000
M0428090	011	0.220	0.223	0.224	0.004	1.817	0.545	2.361	0.178	0.460	0.307
M0428470	012	0.058	0.067	0.073	0.015	6.001	4.466	10.466	0.014	0.035	0.005
M0432450	013	0.039	0.057	0.060	0.022	8.311	1.330	9.642	0.004	0.249	0.008

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0435640	014	0.202	0.208	0.214	0.012	4.719	4.716	9.435	0.030	0.030	0.009
M0438260	015	0.216	0.219	0.233	0.017	2.507	10.642	13.149	0.113	0.001	0.001
M0448000	016	0.215	0.321	0.323	0.107	81.927	1.146	83.074	0.000	0.284	0.000
M0292340	017	0.076	0.156	0.156	0.080	20.449	0.004	20.453	0.000	0.949	0.000
M0209730	001	0.120	0.139	0.139	0.019	14.810	0.005	14.815	0.000	0.942	0.001
M0274780	002	0.009	0.011	0.013	0.004	0.620	0.410	1.029	0.431	0.522	0.598
M0277610	003	0.050	0.053	0.053	0.003	1.419	0.326	1.745	0.234	0.568	0.418
M0400300	004	0.134	0.138	0.139	0.005	2.725	0.672	3.397	0.099	0.412	0.183
M0403370	005	0.153	0.158	0.159	0.006	4.156	0.899	5.055	0.041	0.343	0.080
M0403510	006	0.149	0.186	0.214	0.065	9.667	7.317	16.984	0.002	0.007	0.000
M0403620	007	0.131	0.136	0.136	0.006	3.426	0.239	3.666	0.064	0.625	0.160
M0404280	008	0.122	0.127	0.127	0.005	2.657	0.007	2.663	0.103	0.935	0.264
M0443250	009	0.163	0.164	0.164	0.001	0.557	0.586	1.143	0.456	0.444	0.565
M0443430	010	0.105	0.128	0.129	0.024	10.471	0.275	10.746	0.001	0.600	0.005
M0444040	011	0.058	0.078	0.080	0.022	11.390	1.587	12.978	0.001	0.208	0.002
M0010180	001	0.096	0.142	0.143	0.047	28.300	1.171	29.471	0.000	0.279	0.000
M0107140	002	0.108	0.109	0.109	0.001	0.292	0.184	0.477	0.589	0.668	0.788
M0241880	003	0.038	0.070	0.091	0.053	7.713	5.082	12.796	0.005	0.024	0.002
M0242640	004	0.244	0.247	0.249	0.004	0.955	0.819	1.773	0.329	0.366	0.412
M0246000	005	0.031	0.032	0.035	0.004	0.711	1.718	2.430	0.399	0.190	0.297
M0248670	006	0.163	0.165	0.165	0.002	1.024	0.157	1.181	0.312	0.692	0.554
M0273320	007	0.228	0.228	0.229	0.001	0.091	0.364	0.455	0.763	0.546	0.796
M0274200	008	0.103	0.143	0.150	0.048	22.821	4.407	27.228	0.000	0.036	0.000
M02E0520	009	0.107	0.112	0.118	0.010	2.290	3.395	5.685	0.130	0.065	0.058
M02E2610	010	0.060	0.114	0.121	0.062	32.275	4.670	36.945	0.000	0.031	0.000
M0011680	001	0.161	0.166	0.176	0.016	4.519	7.986	12.505	0.034	0.005	0.002
M0209890	002	0.060	0.060	0.070	0.010	0.183	7.156	7.340	0.669	0.007	0.025
M0210710	003	0.337	0.338	0.341	0.004	0.534	2.891	3.425	0.465	0.089	0.180
M0210860	004	0.181	0.192	0.204	0.023	6.455	7.403	13.859	0.011	0.007	0.001
M0211710	005	0.112	0.136	0.140	0.028	14.985	2.396	17.381	0.000	0.122	0.000
M0246550	006	0.086	0.086	0.090	0.004	0.228	2.661	2.888	0.633	0.103	0.236
M0276400	007	0.087	0.122	0.122	0.036	23.448	0.222	23.670	0.000	0.638	0.000
M0276730	008	0.120	0.154	0.154	0.034	17.418	0.002	17.420	0.000	0.963	0.000
M0276770	009	0.121	0.125	0.133	0.012	2.103	4.687	6.790	0.147	0.030	0.034

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0277220	010	0.161	0.218	0.218	0.056	34.042	0.009	34.052	0.000	0.923	0.000
M0277390	011	0.143	0.147	0.153	0.010	2.814	3.793	6.607	0.093	0.051	0.037
M02E1500	012	0.141	0.160	0.161	0.019	14.622	0.712	15.334	0.000	0.399	0.000
M0407700	013	0.081	0.161	0.161	0.081	49.121	0.339	49.460	0.000	0.560	0.000
M0414180	014	0.121	0.122	0.122	0.000	0.106	0.004	0.110	0.744	0.950	0.946
M0431460	015	0.205	0.208	0.228	0.023	1.743	9.735	11.478	0.187	0.002	0.003
M0436020	016	0.161	0.196	0.197	0.036	22.923	0.433	23.356	0.000	0.510	0.000
M0438860	017	0.076	0.183	0.183	0.108	71.313	0.481	71.793	0.000	0.488	0.000
M0011240	001	0.314	0.328	0.328	0.014	12.633	0.028	12.661	0.000	0.868	0.002
M0011360	002	0.116	0.182	0.186	0.070	46.065	2.573	48.638	0.000	0.109	0.000
M0011590	003	0.097	0.097	0.102	0.005	0.212	2.566	2.778	0.645	0.109	0.249
M0012050	004	0.149	0.164	0.165	0.015	6.399	0.238	6.638	0.011	0.625	0.036
M0012280	005	0.058	0.062	0.062	0.004	2.524	0.223	2.747	0.112	0.636	0.253
M0015070	006	0.075	0.076	0.076	0.001	0.267	0.001	0.269	0.605	0.970	0.874
M0101850	007	0.211	0.213	0.215	0.004	1.208	1.141	2.350	0.272	0.285	0.309
M0108040	008	0.018	0.024	0.025	0.007	1.944	0.315	2.259	0.163	0.575	0.323
M0208680	009	0.205	0.220	0.220	0.016	11.621	0.004	11.624	0.001	0.951	0.003
M0210420	010	0.247	0.254	0.255	0.009	3.187	0.637	3.825	0.074	0.425	0.148
M0243490	011	0.059	0.064	0.064	0.005	3.553	0.086	3.639	0.059	0.769	0.162
M0248020	012	0.091	0.123	0.123	0.032	17.960	0.091	18.052	0.000	0.762	0.000
M0400230	013	0.023	0.036	0.040	0.017	7.276	2.170	9.446	0.007	0.141	0.009
M0405160	014	0.155	0.170	0.171	0.016	7.535	0.861	8.396	0.006	0.354	0.015
M0429840	015	0.063	0.075	0.075	0.012	3.687	0.014	3.700	0.055	0.907	0.157
M0437640	016	0.079	0.102	0.103	0.024	15.484	0.196	15.681	0.000	0.658	0.000
M0011240	001	0.306	0.306	0.308	0.002	0.031	1.355	1.386	0.859	0.244	0.500
M0015070	002	0.146	0.146	0.147	0.001	0.051	0.165	0.216	0.821	0.685	0.898
M0108040	003	0.093	0.111	0.114	0.021	4.154	0.678	4.832	0.042	0.410	0.089
M0210420	004	0.222	0.225	0.230	0.008	0.819	1.416	2.234	0.366	0.234	0.327
M0210490	005	0.063	0.063	0.065	0.002	0.189	0.662	0.851	0.663	0.416	0.653
M0210870	006	0.157	0.184	0.184	0.027	13.087	0.242	13.329	0.000	0.623	0.001
M0244210	007	0.199	0.219	0.221	0.022	10.640	1.222	11.862	0.001	0.269	0.003
M0244560	008	0.157	0.157	0.159	0.001	0.004	0.775	0.779	0.949	0.379	0.678
M0244660	009	0.152	0.154	0.154	0.002	0.571	0.341	0.913	0.450	0.559	0.634
M0244980	010	0.255	0.261	0.262	0.008	3.020	0.432	3.452	0.082	0.511	0.178

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0245850	011	0.086	0.091	0.093	0.008	2.582	1.158	3.740	0.108	0.282	0.154
M0246080	012	0.192	0.194	0.197	0.005	1.092	1.367	2.459	0.296	0.242	0.293
M0247530	013	0.052	0.058	0.058	0.007	3.186	0.163	3.349	0.074	0.686	0.187
M0247980	014	0.121	0.153	0.158	0.037	13.755	2.236	15.991	0.000	0.135	0.000
M0249290	015	0.073	0.079	0.080	0.006	1.114	0.053	1.167	0.291	0.818	0.558
M0249490	016	0.209	0.209	0.211	0.002	0.164	1.050	1.213	0.686	0.306	0.545
M0400540	001	0.017	0.075	0.201	0.184	16.441	37.752	54.194	0.000	0.000	0.000
M0400560	002	0.092	0.113	0.115	0.023	6.580	0.625	7.205	0.010	0.429	0.027
M0400880	003	0.163	0.163	0.163	0.000	0.237	0.058	0.296	0.626	0.809	0.863
M0403090	004	0.068	0.074	0.080	0.012	4.522	4.782	9.304	0.033	0.029	0.010
M0406140	005	0.242	0.243	0.258	0.016	0.232	3.013	3.245	0.630	0.083	0.197
M0407100	006	0.096	0.106	0.106	0.010	7.247	0.018	7.265	0.007	0.894	0.026
M0413970	007	0.181	0.181	0.181	0.000	0.002	0.013	0.015	0.960	0.910	0.992
M0413990	008	0.093	0.094	0.094	0.001	0.172	0.001	0.174	0.678	0.971	0.917
M0414260	009	0.149	0.149	0.149	0.000	0.007	0.048	0.055	0.932	0.826	0.973
M0420520	010	0.232	0.242	0.244	0.012	8.658	1.753	10.410	0.003	0.186	0.005
M0422260	011	0.069	0.116	0.117	0.048	7.612	0.147	7.759	0.006	0.701	0.021
M0428760	012	0.055	0.055	0.055	0.000	0.012	0.054	0.066	0.914	0.816	0.968
M0443480	013	0.144	0.148	0.155	0.010	2.743	5.459	8.202	0.098	0.019	0.017
M0113120	001	0.038	0.057	0.057	0.018	11.736	0.157	11.893	0.001	0.692	0.003
M02E2660	002	0.147	0.166	0.166	0.019	13.377	0.109	13.486	0.000	0.741	0.001
M0403080	003	0.115	0.123	0.138	0.022	5.608	9.582	15.190	0.018	0.002	0.001
M0414530	004	0.106	0.106	0.111	0.005	0.222	3.474	3.696	0.638	0.062	0.158
M0420600	005	0.189	0.192	0.192	0.003	2.078	0.131	2.210	0.149	0.717	0.331
M0423870	006	0.060	0.071	0.078	0.017	6.883	4.722	11.605	0.009	0.030	0.003
M0425350	007	0.049	0.324	0.337	0.289	197.465	10.640	208.106	0.000	0.001	0.000
M0436710	008	0.123	0.123	0.131	0.008	0.000	5.192	5.192	0.986	0.023	0.075
M0439670	009	0.070	0.103	0.104	0.033	20.082	0.748	20.830	0.000	0.387	0.000
M0444900	010	0.089	0.090	0.090	0.001	0.665	0.274	0.939	0.415	0.601	0.625
M0000770	001	0.006	0.007	0.013	0.007	0.166	1.740	1.907	0.683	0.187	0.385
M0112600	002	0.199	0.203	0.208	0.009	2.385	2.676	5.061	0.123	0.102	0.080
M0113120	003	0.115	0.123	0.138	0.022	5.608	9.582	15.190	0.018	0.002	0.001
M0207960	004	0.156	0.158	0.159	0.003	1.793	0.156	1.949	0.181	0.693	0.377
M0209010	005	0.156	0.186	0.190	0.034	19.606	2.615	22.221	0.000	0.106	0.000

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0210540	006	0.249	0.250	0.253	0.003	0.449	0.950	1.399	0.503	0.330	0.497
M0252700	007	0.204	0.205	0.205	0.000	0.120	0.053	0.173	0.729	0.818	0.917
M0270050	008	0.055	0.057	0.069	0.015	0.962	4.323	5.285	0.327	0.038	0.071
M0274790	009	0.060	0.061	0.062	0.002	0.832	0.184	1.015	0.362	0.668	0.602
M0275370	010	0.229	0.229	0.229	0.000	0.016	0.019	0.035	0.899	0.890	0.983
M0443480	011	0.150	0.164	0.166	0.015	8.293	1.065	9.357	0.004	0.302	0.009
M0102670	001	0.098	0.137	0.137	0.039	27.649	0.448	28.097	0.000	0.503	0.000
M0227320	002	0.152	0.160	0.160	0.008	4.302	0.022	4.324	0.038	0.883	0.115
M0401540	003	0.057	0.061	0.081	0.024	0.735	4.011	4.746	0.391	0.045	0.093
M0402100	004	0.137	0.140	0.142	0.005	1.823	1.814	3.637	0.177	0.178	0.162
M0403770	005	0.153	0.296	0.296	0.143	17.908	0.005	17.913	0.000	0.944	0.000
M0408520	006	0.112	0.160	0.160	0.049	34.182	0.039	34.221	0.000	0.844	0.000
M0413400	007	0.066	0.067	0.071	0.005	0.058	3.417	3.475	0.809	0.065	0.176
M0415800	008	0.081	0.083	0.083	0.002	1.248	0.194	1.443	0.264	0.659	0.486
M0415950	009	0.075	0.104	0.107	0.032	20.279	1.806	22.085	0.000	0.179	0.000
M0420690	010	0.082	0.082	0.083	0.001	0.030	0.319	0.349	0.863	0.572	0.840
M0430230	011	0.085	0.092	0.093	0.008	0.357	0.062	0.419	0.550	0.803	0.811
M0431320	012	0.146	0.211	0.212	0.066	42.928	0.503	43.431	0.000	0.478	0.000
M0439560	013	0.216	0.220	0.221	0.005	3.335	0.952	4.287	0.068	0.329	0.117
M0501310	014	0.093	0.096	0.104	0.010	0.421	1.164	1.585	0.517	0.281	0.453
M0209370	001	0.179	0.183	0.183	0.004	2.709	0.406	3.115	0.100	0.524	0.211
M0400630	002	0.059	0.079	0.101	0.041	4.969	5.512	10.481	0.026	0.019	0.005
M0402250	003	0.075	0.079	0.080	0.005	1.000	0.072	1.072	0.317	0.789	0.585
M0402270	004	0.113	0.116	0.132	0.019	2.123	12.138	14.261	0.145	0.000	0.001
M0402280	005	0.159	0.195	0.196	0.037	13.827	0.304	14.131	0.000	0.581	0.001
M0404740	006	0.166	0.179	0.183	0.017	9.437	3.797	13.234	0.002	0.051	0.001
M0408510	007	0.053	0.054	0.061	0.008	0.480	4.620	5.099	0.489	0.032	0.078
M0413480	008	0.255	0.282	0.288	0.032	21.833	4.788	26.621	0.000	0.029	0.000
M0427040	009	0.115	0.117	0.122	0.007	0.661	1.697	2.358	0.416	0.193	0.308
M0430270	010	0.148	0.169	0.169	0.020	12.280	0.094	12.374	0.000	0.759	0.002
M0431000	011	0.132	0.155	0.157	0.025	15.812	1.984	17.795	0.000	0.159	0.000
M0435740	012	0.071	0.076	0.087	0.016	0.495	1.333	1.827	0.482	0.248	0.401
M0501190	013	0.067	0.076	0.076	0.009	6.237	0.029	6.266	0.013	0.864	0.044
M0014440	001	0.012	0.014	0.016	0.005	1.326	0.762	2.088	0.250	0.383	0.352

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0207830	002	0.012	0.048	0.055	0.042	17.585	3.249	20.834	0.000	0.071	0.000
M0217120	003	0.163	0.203	0.204	0.041	19.744	0.243	19.987	0.000	0.622	0.000
M0229250	004	0.098	0.173	0.173	0.076	8.545	0.051	8.596	0.003	0.820	0.014
M0250190	005	0.075	0.080	0.081	0.006	0.566	0.216	0.783	0.452	0.642	0.676
M0252210	006	0.182	0.208	0.209	0.027	4.936	0.297	5.233	0.026	0.586	0.073
M0270410	007	0.047	0.048	0.048	0.001	0.414	0.165	0.579	0.520	0.685	0.749
M0275410	008	0.145	0.156	0.161	0.016	5.391	2.486	7.877	0.020	0.115	0.019
M0401000	009	0.071	0.078	0.079	0.008	1.940	0.472	2.413	0.164	0.492	0.299
M0410240	010	0.088	0.205	0.211	0.124	60.039	3.324	63.362	0.000	0.068	0.000
M0411190	011	0.166	0.177	0.178	0.012	5.711	0.418	6.130	0.017	0.518	0.047
M0441450	012	0.026	0.027	0.053	0.027	0.485	12.157	12.642	0.486	0.000	0.002
M0442440	013	0.165	0.177	0.184	0.019	5.648	3.411	9.059	0.017	0.065	0.011
M0000610	001	0.146	0.146	0.147	0.001	0.006	0.633	0.639	0.941	0.426	0.727
M0106230	002	0.125	0.128	0.133	0.009	1.029	1.551	2.580	0.310	0.213	0.275
M0207290	003	0.154	0.168	0.169	0.015	5.472	0.364	5.836	0.019	0.546	0.054
M0207800	004	0.156	0.176	0.176	0.020	14.513	0.000	14.513	0.000	0.992	0.001
M0221870	005	0.043	0.044	0.044	0.001	0.829	0.086	0.915	0.363	0.769	0.633
M0252680	006	0.096	0.102	0.103	0.007	3.508	0.645	4.154	0.061	0.422	0.125
M0414010	007	0.258	0.279	0.285	0.027	2.725	0.690	3.416	0.099	0.406	0.181
M0415930	008	0.209	0.215	0.215	0.006	4.136	0.071	4.207	0.042	0.790	0.122
M0415960	009	0.134	0.146	0.146	0.012	8.279	0.121	8.400	0.004	0.728	0.015
M0424000	010	0.103	0.149	0.158	0.055	32.642	6.578	39.220	0.000	0.010	0.000
M0441560	011	0.136	0.177	0.181	0.044	6.135	0.549	6.684	0.013	0.459	0.035
M0443820	012	0.045	0.047	0.062	0.017	1.108	7.531	8.639	0.292	0.006	0.013
M0502350	013	0.068	0.069	0.070	0.002	0.556	0.476	1.032	0.456	0.490	0.597
M0107350	001	0.156	0.160	0.160	0.004	1.787	0.171	1.957	0.181	0.680	0.376
M0107390	002	0.254	0.254	0.268	0.014	0.000	1.771	1.771	0.994	0.183	0.412
M0111310	003	0.153	0.163	0.165	0.012	7.952	1.329	9.281	0.005	0.249	0.010
M0205700	004	0.065	0.074	0.082	0.018	1.300	1.037	2.337	0.254	0.309	0.311
M0207350	005	0.107	0.107	0.108	0.001	0.057	0.168	0.225	0.811	0.682	0.894
M0208290	006	0.152	0.157	0.157	0.006	2.683	0.152	2.835	0.101	0.696	0.242
M0209191	007	0.057	0.083	0.088	0.031	7.127	1.254	8.382	0.008	0.263	0.015
M0214010	008	0.059	0.103	0.103	0.044	21.488	0.074	21.562	0.000	0.786	0.000
M0214870	009	0.178	0.178	0.179	0.000	0.029	0.213	0.242	0.864	0.645	0.886

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0250920	010	0.109	0.110	0.110	0.001	0.562	0.047	0.609	0.453	0.829	0.738
M0251770	011	0.031	0.049	0.054	0.024	4.451	1.340	5.791	0.035	0.247	0.055
M0251791	012	0.107	0.118	0.131	0.024	5.934	6.696	12.630	0.015	0.010	0.002
M0252410	013	0.169	0.226	0.226	0.057	32.268	0.182	32.450	0.000	0.669	0.000
M0400980	014	0.088	0.107	0.112	0.024	10.276	2.429	12.705	0.001	0.119	0.002
M0411030	015	0.073	0.099	0.100	0.027	13.307	0.626	13.933	0.000	0.429	0.001
M0411150	016	0.176	0.220	0.221	0.045	25.092	0.628	25.720	0.000	0.428	0.000
M0413790	017	0.063	0.065	0.068	0.004	0.575	1.563	2.138	0.448	0.211	0.343
M0443060	018	0.159	0.177	0.179	0.020	9.949	1.197	11.146	0.002	0.274	0.004
M0444920	019	0.071	0.157	0.157	0.086	45.270	0.047	45.317	0.000	0.828	0.000
M0014450	001	0.041	0.043	0.043	0.002	1.172	0.057	1.229	0.279	0.811	0.541
M0206390	002	0.228	0.228	0.232	0.004	0.181	2.684	2.865	0.670	0.101	0.239
M0206420	003	0.056	0.094	0.095	0.039	26.765	0.670	27.435	0.000	0.413	0.000
M0213580	004	0.003	0.004	0.006	0.003	0.542	1.442	1.985	0.462	0.230	0.371
M0213750	005	0.032	0.033	0.033	0.000	0.224	0.008	0.232	0.636	0.929	0.891
M0213800	006	0.043	0.043	0.044	0.000	0.061	0.277	0.339	0.805	0.598	0.844
M0214150	007	0.092	0.100	0.101	0.009	5.083	0.476	5.559	0.024	0.490	0.062
M0215440	008	0.041	0.041	0.045	0.004	0.205	1.440	1.644	0.651	0.230	0.439
M0224100	009	0.105	0.136	0.139	0.034	22.395	2.249	24.644	0.000	0.134	0.000
M0225300	010	0.054	0.057	0.057	0.002	1.562	0.000	1.562	0.211	0.983	0.458
M0418370	011	0.167	0.210	0.212	0.045	26.659	1.347	28.006	0.000	0.246	0.000
M0433880	012	0.094	0.098	0.098	0.004	2.697	0.047	2.744	0.101	0.828	0.254
M0436810	013	0.038	0.043	0.044	0.005	3.322	0.367	3.689	0.068	0.545	0.158
M0110080	001	0.106	0.118	0.129	0.024	10.131	8.895	19.026	0.001	0.003	0.000
M0206510	002	0.044	0.049	0.050	0.006	3.715	0.629	4.344	0.054	0.428	0.114
M0212980	003	0.045	0.048	0.049	0.004	1.232	0.788	2.020	0.267	0.375	0.364
M0213180	004	0.098	0.106	0.106	0.008	5.708	0.046	5.754	0.017	0.830	0.056
M0213810	005	0.072	0.087	0.096	0.024	2.741	1.671	4.412	0.098	0.196	0.110
M0224220	006	0.091	0.103	0.119	0.028	6.875	9.743	16.618	0.009	0.002	0.000
M0278960	007	0.094	0.097	0.097	0.003	2.151	0.218	2.369	0.142	0.641	0.306
M0401780	008	0.108	0.113	0.114	0.005	3.635	0.501	4.136	0.057	0.479	0.126
M0401990	009	0.025	0.026	0.026	0.000	0.112	0.092	0.203	0.738	0.762	0.903
M0402620	010	0.111	0.111	0.114	0.003	0.371	1.390	1.761	0.542	0.238	0.415
M0427970	011	0.006	0.007	0.007	0.001	0.580	0.021	0.601	0.446	0.885	0.740

Table 2. Logistic Regression Analysis of DIF

		R-SQUARE Total score in the model	R-SQUARE Total score and Uniform DIF	R-SQUARE Total Score, Uniform DIF, and Non-Uniform DIF	DIF R-Square	UNIFORM DIF CHI-SQUARE	NON-UNIFORM DIF CHI SQUARE	TOTAL DIF CHI-SQUARE	UNIFORM DIF P-VALUE	NON-UNIFORM DIF P-VALUE	TOTAL DIF P-VALUE
M0441830	012	0.060	0.066	0.066	0.006	3.560	0.049	3.609	0.059	0.825	0.165
M0442920	013	0.058	0.071	0.072	0.014	10.423	0.748	11.171	0.001	0.387	0.004
M0442970	014	0.057	0.084	0.091	0.033	9.616	2.516	12.132	0.002	0.113	0.002
M0445270	015	0.085	0.087	0.087	0.002	1.107	0.133	1.239	0.293	0.716	0.538
M0200600	001	0.032	0.203	0.204	0.172	118.004	1.035	119.039	0.000	0.309	0.000
M0206470	002	0.080	0.108	0.109	0.029	8.389	0.327	8.716	0.004	0.567	0.013
M0213270	003	0.015	0.016	0.017	0.002	0.761	0.624	1.385	0.383	0.430	0.500
M0213340	004	0.094	0.094	0.117	0.024	0.000	4.848	4.848	1.000	0.028	0.089
M0213390	005	0.045	0.054	0.054	0.009	2.172	0.045	2.217	0.141	0.832	0.330
M0214050	006	0.032	0.038	0.043	0.011	0.514	0.433	0.947	0.473	0.511	0.623
M0214480	007	0.022	0.023	0.023	0.001	0.664	0.246	0.910	0.415	0.620	0.635
M0214490	008	0.164	0.202	0.207	0.043	28.948	3.663	32.611	0.000	0.056	0.000
M0214540	009	0.099	0.129	0.130	0.031	20.775	1.103	21.879	0.000	0.294	0.000
M0221890	010	0.197	0.255	0.255	0.058	45.623	0.275	45.898	0.000	0.600	0.000
M0224100	011	0.099	0.099	0.234	0.135	85.830	0.626	86.456	0.000	0.429	0.000
M0271810	012	0.031	0.058	0.061	0.031	10.037	1.271	11.308	0.002	0.260	0.004
M02E2240	013	0.086	0.095	0.105	0.019	6.277	7.528	13.805	0.012	0.006	0.001
M0401910	014	0.061	0.085	0.085	0.024	15.386	0.035	15.422	0.000	0.851	0.000
M0425740	015	0.099	0.111	0.119	0.020	8.884	5.037	13.922	0.003	0.025	0.001
M0426000	016	0.025	0.035	0.039	0.015	7.098	2.887	9.985	0.008	0.089	0.007
M0436580	017	0.037	0.044	0.045	0.008	2.620	0.416	3.036	0.106	0.519	0.219
M0439810	018	0.039	0.055	0.055	0.016	10.757	0.079	10.836	0.001	0.779	0.004
M0439970	019	0.031	0.057	0.099	0.067	3.547	5.933	9.480	0.060	0.015	0.009
M0440000	020	0.031	0.073	0.077	0.046	25.274	2.182	27.456	0.000	0.140	0.000
M0441650	021	0.052	0.053	0.055	0.002	0.268	1.346	1.614	0.605	0.246	0.446
M0441680	022	0.066	0.069	0.073	0.006	1.953	2.618	4.571	0.162	0.106	0.102