

**Final Report on the
Evaluation of the ACT Pilot Project
Based on the Correlation
of ACT and NeSA Assessment Scores**

January 8, 2015

REVIEW COPY

Submitted by

**Nebraska's Coordinating Commission
for Postsecondary Education**

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Final Report on the Evaluation of the ACT Pilot Project Based on the Correlation of ACT and NeSA Assessment Scores

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Executive Summary

The ACT Pilot Project required all 11th graders in eight Nebraska public school districts to take the ACT during a school day in the spring of 2012, 2013, and 2014. In total, there are 13 high schools within the eight participating districts—six in Lincoln and one in each of the other seven districts. Throughout this report, these high schools are referred to as **Pilot schools**.¹

One of the objectives of the ACT Pilot Project is to determine if there is a sufficient positive correlation between the scores on the ACT and the Nebraska State Accountability (NeSA) assessment to substitute the ACT as a measure of college readiness for the NeSA assessment that 11th graders are currently required to take. To assist the Nebraska Department of Education and the Nebraska State Board of Education in achieving this objective, Nebraska's Coordinating Commission for Postsecondary Education conducted a thorough, comparative correlation analysis of the ACT and NeSA assessment scores of all of the 11th graders who took both tests in spring 2012, spring 2013, and spring 2014.

The research conducted by the Coordinating Commission focused only on the correlations of the scores on the three tests that the ACT and NeSA assessment have in common. These three correlations are as follows:

ACT Reading Score	correlated with	NeSA Reading Score
ACT Mathematics Score	correlated with	NeSA Mathematics Score
ACT Science Score	correlated with	NeSA Science Score

To provide a thorough statistical analysis of the correlations of the ACT and NeSA assessment scores, the Coordinating Commission computed each of the above correlations for each of the Pilot schools, as well as for the 13 schools combined, for each of the three years of testing (2012, 2013, and 2014). For the 13 schools combined

¹The high schools participating in the ACT Pilot Project are as follows: Alliance, Columbus, Gering, Hastings, Scottsbluff, Sidney, South Sioux City, Lincoln High, Lincoln Northeast, Lincoln Southeast, Lincoln East, Lincoln North Star, and Lincoln Southwest.

and for each of the schools individually, the Coordinating Commission also computed the three correlations of test scores for (1) females and males, (2) low-income and non-low-income students, and (3) each of the six major racial/ethnic groups into which students were classified. For a more detailed analysis of the 13 school populations combined, the Coordinating Commission computed and compared the three score correlations for 20 student groups defined by gender, income, and race/ethnicity.

Objectives of the Correlation Study

The Coordinating Commission calculated and compared the correlations of scores on the ACT and NeSA tests in **reading**, **mathematics**, and **science** to achieve the following research objectives:

- (1) to determine the extent to which the scores on the ACT and NeSA tests were correlated for all the students tested at each of the Pilot schools, as well as for the 13 Pilot schools combined; and also determine if these overall score correlations varied significantly by the content area of testing, year of testing, or the school where the students were tested.
- (2) to determine if the scores on the ACT and NeSA tests were equally correlated for males and females, low-income and non-low-income students, the six racial/ethnic groups, and the groups defined by gender, income, and race/ethnicity; and also determine if the score correlations for any of these student populations varied by the content area of testing, year of testing, or the school where the students were tested.

Calculation of Correlation Coefficients and Tests of Statistical Significance

All correlations for this study were calculated using the formula for the Pearson product-moment correlation coefficient (r). This correlation coefficient can range from 0.00 (no correlation) to 1.00 (perfect, positive correlation) or to a negative 1.00 (perfect, inverse correlation).

Another standard statistical procedure was used to compare pairs of correlation coefficients to determine the probability that the difference between the two correlations occurred only by chance, or whether it is likely to be reflecting an actual difference between the two correlations. For all of these comparisons, a probability level of 0.05 or less was used as the decision criterion to conclude whether any two correlations were significantly different.

Throughout this report, the terms “significant” and “significantly” are used to describe correlation coefficients, or the differences between them, that equal or exceed the minimum values required at the 0.05 level of probability for statistical significance. This means that there is a low probability that there is actually no relationship between the ACT and NeSA test scores, or that a difference between two correlation coefficients was evidenced only by chance.

Scope of the Correlation Analysis

The study described in this report was strictly limited to the calculation and analysis of the correlations between the scores on the ACT and NeSA tests in reading, math, and science. The study does not provide any information about the test scores or, in other words, about how well or how poorly any students performed on these tests. Additionally, this study does not address the extent to which the ACT and NeSA assessment tests are designed to measure the same standards of achievement, and it provides no information about the reliability or validity of the assessments, student motivation levels, or other factors that should be considered in the process of deciding whether the ACT can or should be substituted for the NeSA assessment that 11th graders are currently required to take.

Major Findings and Conclusions

Although relatively limited in scope, this research provides a comprehensive, comparative analysis of the correlation of scores on the ACT and NeSA tests in reading, mathematics, and science taken by 11th graders at the Pilot schools in spring 2012, 2013, and 2014. Following are the major findings and conclusions of this study.

Numbers of Students Tested

About equal numbers of 11th graders took the ACT and NeSA assessment tests each of the three years of testing: 3,443 in 2012; 3,438 in 2013; and 3,531 in 2014. In total, 10,412 11th graders took the ACT and NeSA tests over the course of the three years.

At the school level, the total number of students tested at the six Lincoln public high schools ranged from about 300 students at Lincoln Northeast High School in 2012 to almost 500 students at Lincoln Southeast High School in 2014. In comparison, the total number of 11th graders tested at the other seven Pilot schools ranged from only 68 students at Sidney High School in 2012 to close to 300 students at Columbus High School in 2014.

The Statistical Significance of the Score Correlations

Of the 1,690 correlation coefficients reported in this study, 1,669 (98.8%) were statistically significant at the 0.05 level of probability. This means that there was a low probability that these correlations occurred only by chance and a corresponding high probability that the scores on the ACT and NeSA tests were positively correlated to at least some degree for almost all of the school and student populations examined in this study.

The 21 correlation coefficients that were not statistically significant were calculated for minority groups that ranged in size from only 10 to 29 students. That these correlations were not significant at the 0.05 level of probability can most likely be explained by the small samples of students on which the correlations were based.

The Stability of the Score Correlations and Resulting Three-Year Analysis

The correlation coefficients calculated for each of the Pilot schools or for all of the schools combined typically varied at least slightly, and sometimes noticeably, from one year to the next. However, there were relatively few statistically significant increases or decreases in the correlations of the scores on reading, mathematics, or science tests between 2012 and 2013 or between 2013 and 2014.

Based on these findings, the score correlations were sufficiently stable to combine the three years of testing into one data set for each of the three content areas for the purposes of summary analysis. In addition, a separate analysis was conducted for each of the three years of testing.

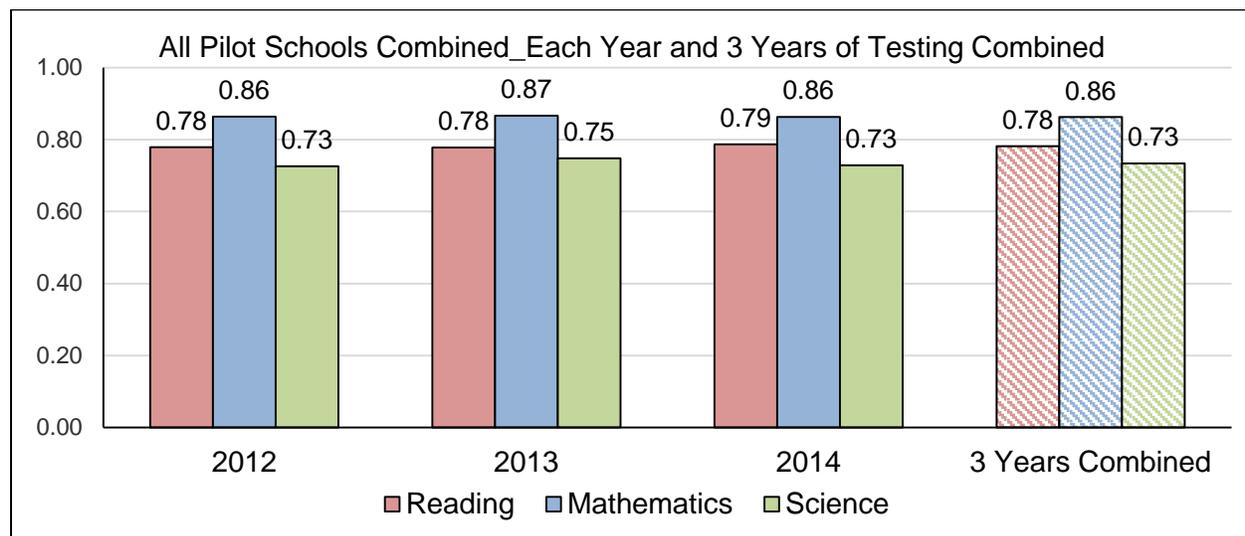
Overall Score Correlations

Overall score correlations were calculated for each of the 13 Pilot schools and for all of the schools combined using the scores for all of the students in each of these school populations.

- As shown in Figure 1, the overall score correlation between the ACT and NeSA tests in **reading** for all of the Pilot schools combined was **0.78 or 0.79** for each of the three years of testing, **0.86 or 0.87** for the tests in **mathematics**, and **0.73 or 0.75** for the **science** tests.
- Based on the three years of testing combined, the overall score correlations for all of the Pilot schools combined were **0.78** for the tests in **reading**, **0.86** for the tests in **mathematics**, and **0.73** for the **science** tests.

Figure 1

Comparison of the Overall Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics, and Science Taken in Spring 2012, 2013, and 2014



- For each of the three years of testing, as well as for the three years combined, the overall score correlations for the tests in **mathematics** were consistently and significantly higher than the overall score correlations for the **reading** and **science** tests for all of the Pilot schools combined, as illustrated in Figure 1.
- At the school level, the overall score correlations for the tests in **mathematics** were significantly higher than the correlations for the **reading** and **science** tests in all but a few cases.
 - When the three years of test data were analyzed separately for each of the Pilot schools, the overall score correlations for the tests in **mathematics** were significantly higher than the comparable correlations for the **reading** and **science** tests, except in the cases of two or three schools.
 - When the three years of testing were combined, the overall score correlations for the tests in **mathematics** were consistently and significantly higher than those for the **reading** and **science** tests at each of the Pilot schools.
- As illustrated in Figure 1 for all of the Pilot schools combined, the overall score correlations for the **reading** tests were consistently and significantly higher than the overall score correlations for the **science** tests for each of the three years of testing, as well as for the three years of testing combined.
- At the school level, the overall score correlations of the **reading** tests were consistently higher, but not always significantly higher, than the overall score correlations for the **science** tests.
- With the three years of test data combined, the ranges of the overall score correlations for the 13 Pilot schools were as follows:

Reading	0.74 to 0.80	(a range of 0.06)
Mathematics	0.83 to 0.88	(a range of 0.05)
Science	0.67 to 0.77	(a range of 0.10)

Based on these ranges and the ranges evidenced for each year of testing, the scores on the ACT and NeSA tests in **mathematics** were more consistently correlated, as well as more highly correlated, than the tests in **reading** and **science** across all of the Pilot schools.

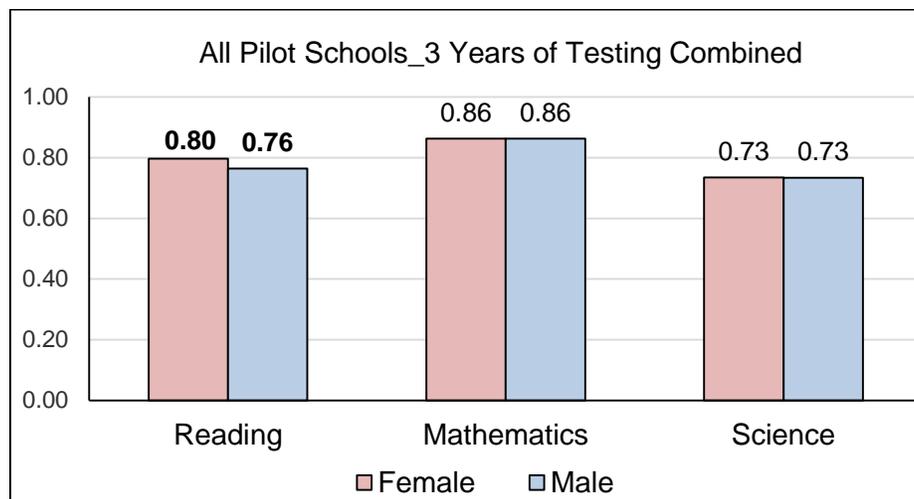
- The comparative analysis of the overall score correlations at the school level also revealed that there definitely were schools with significantly higher or lower overall score correlations than other schools participating in the ACT Pilot Project. However, there were no schools with consistently higher or lower overall score correlations than other schools. Instead, the schools with the highest or lowest overall correlations varied, depending on the content or year of testing.

Analysis by Gender

- In general, the scores on the tests in **reading** were not equally correlated for females and males.
 - With the three years of data combined for all of the Pilot schools, as shown in Figure 2 below, the correlation of scores on the **reading** tests was significantly higher for females than for their male classmates.
 - Also for each of the three years of testing, the score correlations for the **reading** tests were significantly higher for females than for males for all of the Pilot schools combined. The correlation of scores on the **reading** tests also tended to be higher for females than males at the school level, but significant differences between the two gender groups were evidenced for only two or three schools, depending on the year of testing.
- In comparison, the scores on the tests in **mathematics** and **science** were about equally correlated for females and males
 - As shown in Figure 2, the score correlations for the tests in **mathematics** and **science** were exactly the same for males and females when the three years of testing were combined for all of the Pilot schools.
 - For each of the three years of testing, the correlations for the tests in **mathematics** and **science** were equal or almost equal for females and males for all of the Pilot schools combined, and they were noticeably or significantly higher for males as often as they were higher for females at the school level.

Figure 2

Comparison of the Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics, and Science Taken in Spring 2012, 2013, and 2014 for Females and Males

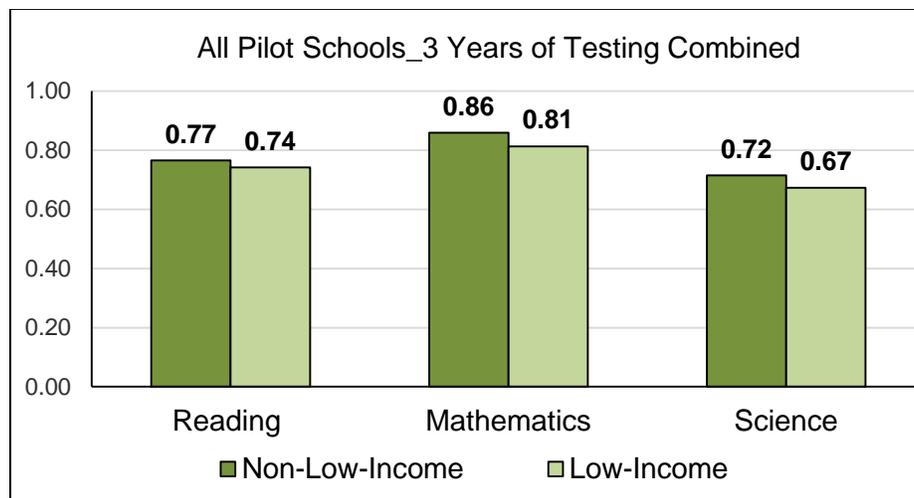


Analysis by Income

- Overall, the scores on the ACT and NeSA tests in **reading, mathematics, and science** were not equally correlated for non-low-income and low-income students.
 - When the three years of testing were combined for all of the Pilot schools, as shown in Figure 3 below, the correlations of the scores on the tests in **reading, mathematics, and science** were all significantly higher for non-low-income students than for low-income students.
 - When each of the three years of tests was analyzed separately for all of the Pilot schools combined, the scores on the tests in **reading, mathematics, and science** were more highly correlated for non-low-income students than for low-income students, except in the cases of the reading tests in 2013 and the science tests in 2014.
 - At the school level, the correlations of scores on the **reading, mathematics, and science** tests also tended to be higher for non-low-income students than for low-income students at the majority of the Pilot schools, except in the cases of the reading tests in 2013 and the science tests in 2014. However, the differences between the score correlations of the two income groups were usually not statistically significant at the school level.

Figure 3

Comparison of the Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics, and Science Taken in Spring 2012, 2013, and 2014 for Non-Low-Income and Low-Income Students



Analysis by Race/Ethnicity

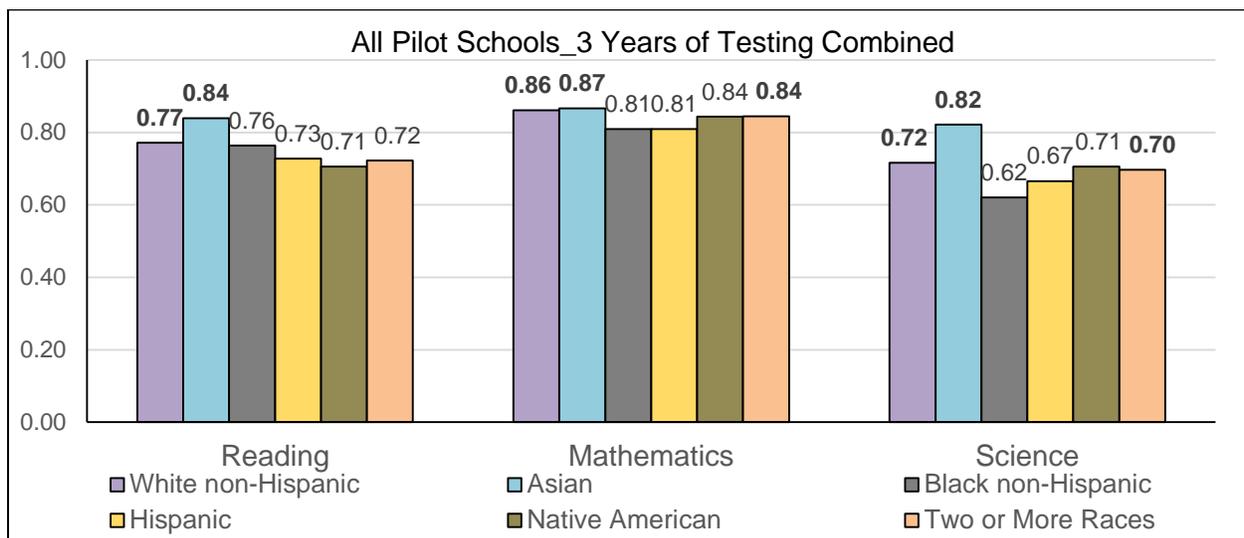
- For the 13 Pilot schools combined and also at the school level, the scores on the ACT and NeSA tests in **reading, mathematics, and science** were not equally correlated for the six student populations defined by race/ethnicity.
 - The correlation coefficients for the racial/ethnic groups highlighted in “bold” print in Figure 4 below were all significantly higher than the correlations for at least one or two other groups. In the case of the reading and science tests, Asians had significantly higher correlations than all five of the other groups.
 - Most frequently, white non-Hispanics and Asians had higher correlations of scores on the reading, math, and science tests than Hispanics.
 - In addition, there were other significant, but less consistent, differences that indicated that the scores on the tests were not equally correlated for the six racial/ethnic groups.

For example, for all of the Pilot schools combined, Hispanics, Native Americans, and students of two or more races had significantly higher correlations of scores on the tests in mathematics than black non-Hispanics in 2013 and 2014, but not in 2012.

As an example at the school level, black non-Hispanics had a significantly higher score correlation for the tests in mathematics than white non-Hispanics in 2012, but not in 2013 or 2014.

Figure 4

Comparison of the Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics, and Science Taken in Spring 2012, 2013, and 2014 for Each Racial/Ethnic Group



Analysis by Gender, Income, and Race/Ethnicity

- Analyzed only for all of the Pilot schools combined, the scores on the tests in **reading, mathematics, and science** were not equally correlated for the 20 groups defined by gender, income, and race/ethnicity.
 - Relatively small groups of Asians typically had the highest score correlations for each of the three content areas of testing, while the lowest correlations were most frequently for male, low-income students of two or more races or male, low-income black non-Hispanics.
 - No other groups had consistently higher or lower score correlations than any other group when the three years of testing were combined or when each year of testing was analyzed separately.
 - However, when the three years of testing were combined for each of the three content areas of testing, the score correlations for at least eight groups were significantly higher than the score correlations for two or more groups.

Overall Conclusions

In general, this study provides substantial evidence that the scores on the ACT and NeSA assessment tests in **reading, mathematics, and science** administered to 11th graders at the Pilot schools in 2012, 2013, and 2014 were significantly, but not equally correlated. At the school level, as well as for the 13 Pilot schools combined, the scores on the tests in **mathematics** were more highly correlated than the scores on the tests in **reading** and **science**. Also, the scores on the **reading** tests were more highly correlated than the scores on the **science** tests, although not always significantly more correlated at the school level.

The statistical analysis described in this report also provided substantial evidence that the scores on the ACT and NeSA tests in **reading, mathematics, and science** were not equally correlated for females and males, low-income and non-low-income students, the students in each of the six racial/ethnic groups, or the students in the groups defined by gender, income, and race/ethnicity. Furthermore, the score correlations for all three content areas of testing varied to some degree, and sometimes significantly, from one Pilot school to another over the three years of testing.

Overall, the scores on the ACT and NeSA tests in **reading, mathematics, and science** were definitely correlated. Whether they are sufficiently correlated to substitute the ACT for the NeSA assessment that 11th graders are currently required to take is debatable, since there is no general standard in the field of testing and measurement for what constitutes a “sufficient” correlation. Without a definitive standard, the findings of this study must be considered in the context of other information that will be important in deciding at the state level whether to substitute the ACT for the NeSA assessment.

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**Final Report on the
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The Nebraska ACT Pilot Project

Funded by the Nebraska Legislature, the ACT Pilot Project initially required all 11th graders in eight selected Nebraska public school districts to take the ACT during a school day in the spring of 2012, 2013, and 2014. During the course of the project, students in the participating school districts were required to take the Nebraska State Accountability (NeSA) assessment, as well as the ACT, in 11th grade.

In 2014, the Nebraska Legislature extended the ACT Pilot Project for an additional two years. The extension of the project requires all 11th graders in the eight Pilot school districts to take the ACT during a school day in the spring of 2015 and 2016. However, the research to evaluate the ACT Pilot Project that is described in this report is limited to the first three years of the project.

The 13 high schools in the eight districts participating in the ACT Pilot Project are as follows:

<u>District</u>	<u>High School</u>
Alliance Public Schools	Alliance High School
Columbus Public Schools	Columbus High School
Gering Public Schools	Gering High School
Hastings Public Schools	Hastings Senior High School
Lincoln Public Schools (LPS)	Lincoln High School Lincoln Northeast High School Lincoln Southeast High School Lincoln East High School North Star High School Southwest High School
Scottsbluff Public Schools	Scottsbluff Senior High School
Sidney Public Schools	Sidney High School
South Sioux City Community Schools	South Sioux Senior High School

Throughout this report, the high schools and districts participating in the ACT Pilot Project are referred to as **Pilot schools** or **Pilot districts**. The Nebraska public high schools and districts not participating in the ACT Pilot Project are referred to as **non-Pilot schools** or **non-Pilot districts**.

All or most of the 11th graders in each of the eight Pilot school districts took both the ACT and the NeSA assessment in the spring of 2012, 2013, and 2014. In 2014, all 11th graders in 12 non-Pilot school districts took the ACT in addition to the NeSA assessment. Based on information from ACT, Inc., these 12 districts and the corresponding number of students tested (in parentheses) were as follows: Bayard (31), Callaway (17), Crofton (28), Gordon-Rushville (20), Hitchcock County (20), Logan View (34), Millard (1,634), North Platte (223), Omaha Nation (10), Ralston (172),

Red Cloud (20), and Sandhills (12). Since these districts were not included in the initial or extended ACT Pilot Project, they will continue to be classified as non-Pilot districts for the purposes of the research conducted by Nebraska's Coordinating Commission for Postsecondary Education to evaluate the ACT Pilot Project.¹

Statistical Studies to Evaluate the ACT Pilot Project

Under contract with the Nebraska Department of Education (NDE), Nebraska's Coordinating Commission for Postsecondary Education is conducting two statistical studies to evaluate the Nebraska ACT Pilot Project.

Study #1: Correlation Analysis of ACT and NeSA Assessment Scores

The first study is designed to determine if there is a sufficient positive correlation between scores on the ACT and Nebraska State Accountability (NeSA) assessment to require all 11th graders to take the ACT as a measure of college readiness, rather than the NeSA assessment.

Study #2: Calculation and Analysis of College-Going Rates

The second study is designed to determine if administering the ACT to all 11th graders in Nebraska's public high schools would increase the college-going rates for Nebraska's public high school graduates, especially for those who, in the past, have been overlooked among the students with the potential for going to college.

This report is the second and final report of the findings and conclusions of the correlation analysis of ACT and NeSA assessment scores (Study #1). The first report was a progress report of the work that was completed on the correlation analysis after the 11th graders in the Pilot schools took the ACT and NeSA assessment in spring 2012 and spring 2013. This progress was submitted to the NDE in March 2014 under the title, *Progress Report on the Evaluation of the ACT Pilot Project Based on the Correlation of ACT and NeSA Assessment Scores*. Separate progress reports describe the work that has been completed to date on the calculation and analysis of college-going rates (Study #2), with the final report of the study of college-going rates scheduled for completion in November 2016.

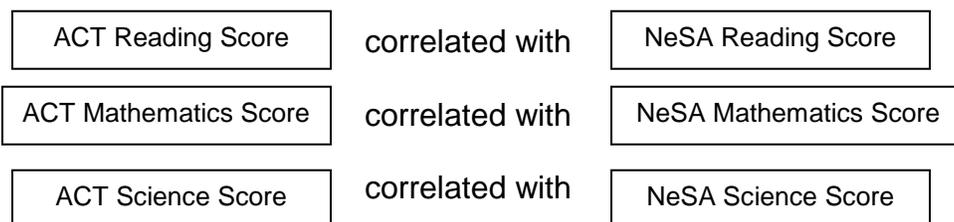
¹The 11th graders at Ralston High School also took the ACT in 2014, as well as in 2012 and 2013. However, Ralson was not included in the districts selected for the ACT Pilot Project and is classified as a non-Pilot school.

Methodology of the Correlation Analysis of ACT and NeSA Assessment Scores

Introduction

One of the objectives of the ACT Pilot Project is to determine if there is a sufficient positive correlation between scores on the ACT and the Nebraska State Accountability (NeSA) assessment to substitute the ACT as a measure of college readiness for the NeSA assessment that 11th graders are currently required to take. To assist the NDE and the Nebraska State Board of Education in achieving this objective, the Coordinating Commission conducted a correlation analysis of the ACT and NeSA assessment scores of all of the students who took both tests in spring 2012, spring 2013, and spring 2014.

The ACT consists of four separately-scored tests in English, reading, mathematics, and science. In addition, each student who takes the ACT receives a composite score as a measure of overall achievement. In comparison, the NeSA assessment consists of three separately-scored tests in reading, mathematics, and science. Consequently, the research conducted by the Coordinating Commission focuses only on the correlations of the scores on the three tests that the ACT and NeSA assessment have in common. These three correlations are as follows:



To provide a thorough statistical analysis of the correlations of the ACT and NeSA assessment scores, the Coordinating Commission computed each of the above correlations for each of the 13 Pilot schools, as well as for the 13 schools combined, for each of the three years of testing (2012, 2013, and 2014). In addition, the Coordinating Commission computed the three correlations of test scores for females and males, low-income and non-low-income students, and each of the six racial/ethnic groups into which students were classified.

The reported analysis provides detailed information about the extent to which the ACT and NeSA assessment scores in reading, mathematics, and science were found to be correlated. However, the ACT and NeSA assessment are different measures of achievement designed for different purposes. Consequently, what constitutes a “sufficient” positive correlation between the two assessments cannot be defined or determined by the results of the data analysis alone. Deciding what is a “sufficient” positive correlation is a judgment call that only the NDE and the Nebraska State Board of Education can make.

Phases of the Correlation Study

The Coordinating Commission conducted the correlation analysis of the ACT and NeSA assessment scores in two phases. During the first phase of this study, the Coordinating Commission calculated and compared the correlations between the scores on the ACT and NeSA assessment tests in reading, mathematics, and science that were taken by the 11th graders in the Pilot schools in spring 2012 and spring 2013. The findings of the comparative analysis of the correlations of the ACT and NeSA assessment scores in 2012 and 2013 were reported in detail in the *Progress Report on the Evaluation of the ACT Pilot Project Based on the Correlation of ACT and NeSA Assessment Scores* that was submitted to the NDE.

During the second phase of the study, the Coordinating Commission calculated the score correlations for the 11th graders in the Pilot schools who took the ACT and NeSA assessment in spring 2014. The score correlations for the tests administered in spring 2014 were then compared to the correlations for the tests administered in 2012 and 2013 to determine the stability of the correlations over the three-year period. In addition, the ACT and NeSA assessment scores of each of the students tested in 2012, 2013, or 2014 were combined into one data set in order to calculate score correlations for the tests in reading, mathematics, and science for the total three-year period.

This final report is a complete, detailed description of the analyses completed during both phases of the correlation study. Consequently, this report encompasses all of the findings of the comparative correlation analysis of the ACT and NeSA assessment scores, including the findings of the analysis conducted during the first phase of this study.

Definitions of Student Populations

The **total population** of students for the correlation study consisted of the 11th graders who took the ACT and the NeSA assessment in spring 2012, spring 2013, or spring 2014. Students who took one assessment, but not the other, were excluded from the study.

For the purposes of this study, a **school population** was defined as the Pilot school where the 11th graders took the ACT. If a student took the ACT at a Pilot school, but took the NeSA assessment at a different Pilot school or at a non-Pilot school, the student was included in the school population where the student took the ACT.

Each of the following represented a school population for the correlation study:

- the 13 Pilot schools, individually (13 separate student populations)
 - Alliance High School
 - Columbus High School
 - Gering High School
 - Hastings Senior High School
 - Lincoln High School
 - Lincoln Northeast High School
 - Lincoln Southeast High School
 - Lincoln East High School
 - (Lincoln) North Star High School
 - (Lincoln) Southwest High School
 - Scottsbluff Senior High School
 - Sidney High School
 - South Sioux Senior High School
- the 13 Pilot schools combined

In addition to school populations, three **demographic variables** were used to define **student populations** or **student groups** within each of the school populations. These demographic variables were gender, race/ethnicity, and participation (or not) in the free-or-reduced-price meal program as an indicant of household income. Based on their participation in the free-or-reduced-price meal program, the 11th graders in this study were classified as “low-income” or “non-low-income” students.

For analysis of each school population, a student population or student group was defined by only one of these three variables. For a more detailed analysis of the 13 school populations combined, student populations were defined by all three of the basic demographics used in this study.

The 10 student populations defined by gender, participation in the free-or-reduced-price meal program, OR race/ethnicity were as follows:

- Males
- Females
- Non-low-income students
- Low-income students
- White non-Hispanics
- Asians¹
- Black non-Hispanics
- Hispanics
- Native Americans²
- Two or more races

The 24 student populations defined by gender, race/ethnicity, AND participation in the free-or-reduced-price meal program were as follows:

- Female, non-low-income white non-Hispanics
- Male, non-low-income white non-Hispanics
- Female, low-income white non-Hispanics
- Male, low-income white non-Hispanics
- Female, non-low-income Asians
- Male, non-low-income Asians
- Female, low-income Asians
- Male, low-income Asians
- Female, non-low-income black non-Hispanics
- Male, non-low-income black non-Hispanics
- Female, low-income black non-Hispanics
- Male, low-income black non-Hispanics
- Female, non-low-income Hispanics
- Male, non-low-income Hispanics
- Female, low-income Hispanics
- Male, low-income Hispanics
- Female, non-low-income Native Americans
- Male, non-low-income Native Americans
- Female, low-income Native Americans
- Male, low-income Native Americans
- Female, non-low-income of two or more races
- Male, non-low-income of two or more races
- Female, low-income of two or more races
- Male, low-income of two or more races

¹Asians include Pacific Islanders.

²Native Americans are defined as American Indians and Alaska Natives.

Sources of Data and Data Processing

The Nebraska Department of Education (NDE) received student ACT scores directly from ACT, Inc. Once received by the NDE, ACT scores were combined with other student-level data that were required to analyze the correlations between the scores on the ACT and NeSA assessment. The student-level data required for this study included the student's scores on the ACT and NeSA assessment tests in reading, math, and science; the Pilot school where the student took the ACT; the student's gender, whether the student participated in the free-or-reduced-price meal program, and the student's race/ethnicity.

The required data for all of the students who took both the ACT and NeSA assessment in spring 2012, 2013, or 2014 were delivered electronically to the Coordinating Commission. These data were then processed and analyzed to meet the objectives of this study.

Calculation of Correlation Coefficients and Tests of Statistical Significance

All correlations for this study were calculated using the formula for the Pearson product-moment correlation coefficient (r). This correlation coefficient can range from 0.00 (no correlation) to 1.00 (perfect, positive correlation) or to a negative 1.00 (perfect, inverse correlation).

Every correlation coefficient calculated in this study was compared to the "critical value" it must equal or exceed to be statistically significant at the 0.05 level of probability (p). Significance at this level means that there is a low probability that there is actually no relationship between the two test scores, or that $r = 0.00$.

In this study, another standard procedure was used to determine if there was a statistically significant difference between two correlations, or if $r_1 = r_2$. Based on the values of the two correlation coefficients and the corresponding sample sizes, the formula used in this procedure transforms the difference between the two correlations into a z value. The probability (p) of the calculated z value occurring only as a result of sampling error, or only by chance, is then determined. This probability indicates whether it is likely that the difference between the two correlations has occurred by chance, or whether it is likely to be reflecting an actual difference between the two correlations. For all comparisons in this study, a probability level of 0.05 or less was used as the decision criterion to conclude whether two correlations were significantly different.

It is not advisable to apply this comparison procedure to correlations based on samples of fewer than 20. Consequently, a statistical comparison of two correlations is reported in this study only when both student populations consisted of 20 or more students.

Throughout this report, the terms "significant" and "significantly" are used only when correlation coefficients, or the differences between them, equal or exceed the minimum values required at the 0.05 level of statistical significance. However, it should be noted that there can be a noticeable, even large, difference between two correlations

that is not statistically significant, especially when one or both correlations are based on a relatively low number of test scores. In some cases, such differences may be of interest, even though they are not statistically significant at the 0.05 level of probability.

Scope of the Correlation Analysis

This study was strictly limited to the calculation and analysis of the correlation between the scores on the ACT and NeSA tests in reading, math, and science. This study does not provide any information about the scores on which these correlations are based.

A relatively high, positive correlation between the scores on the ACT and NeSA tests in reading, mathematics, or science means that the students' scores were generally equivalent on both tests. In other words, if they received a relatively high score on one test, they tended to receive a high score on the other, OR, if they received a relatively low score on one test, they tended to receive a low score on the other. However, the correlation does not indicate how well or how poorly students performed on either test.

Introduction to the Remaining Sections of This Report

The remaining sections of this report describe the findings, limitations, and conclusions of the correlation analysis of the scores on the ACT and NeSA tests in reading, math, and science, which were taken in spring 2012, 2013, and 2014. Based on the comparative analysis of the correlations of the ACT and NeSA scores over the course of the three-year ACT Pilot Project, the NDE and the Nebraska State Board of Education can decide whether the positive correlations between the two assessments are "sufficient" to substitute the ACT as a measure of college readiness for the NeSA assessment that 11th graders in Nebraska's public high schools are currently required to take.

Findings of the Correlation Analysis of the ACT and NeSA Assessment Tests Taken in 2012, 2013, and 2014

This section presents the findings of the correlation analysis of the scores on the ACT and NeSA assessment tests in reading, mathematics, and science, which were taken by the 11th graders in the Pilot schools in spring 2012, 2013, and 2014. This section consists of five parts that correspond to the student populations of interest in this study.

The first part of this section focuses on the analysis of the correlations evidenced for each school population, including the 13 Pilot schools combined. These correlations are referred to as overall score correlations because these correlation coefficients were computed using the scores for all of the students in each school population.

The objectives of the analysis of overall score correlations were to determine the extent to which the scores on the ACT and the NeSA tests in reading, mathematics, or science were generally correlated and to determine if these correlations varied from one school population to another. Specifically, the following findings of the overall score correlation analysis are reported in Part 1 of this section:

- (1) the extent to which the ACT and NeSA tests in reading, mathematics, and science were correlated for the 13 Pilot schools combined and for each of the 13 Pilot schools,
- (2) whether the correlations of test scores varied significantly from one school to another,
- (3) whether there were significant differences between the correlations of the reading, mathematics, and science tests for the 13 Pilot schools combined or at any of the 13 Pilot schools, and
- (4) whether the correlations of the reading, mathematics, or science test scores varied significantly from one year to the next over the course of the ACT Pilot Project.

The second, third, and fourth parts of this section report the comparative analyses of the correlation coefficients calculated for the 10 gender, income, and racial/ethnic groups within each school population, including the 13 Pilot schools combined. Part 2 presents and compares the correlation coefficients calculated for females and males. Part 3 reports the comparative analysis of the correlation coefficients calculated for non-low-income and low-income students. Part 4 reports the comparative analysis of the correlation coefficients calculated for each of the six student groups defined by race/ethnicity.

The purpose of the analyses reported in Part 2, Part 3, and Part 4 was to determine if the scores on the ACT and NeSA tests in reading, mathematics, and science were equally correlated for females and males, low-income and non-low-

income students, and students in each of the six racial/ethnic groups. In summary, the following findings are reported in Part 2, Part 3, and Part 4 of this section:

- (1) the extent to which the ACT and NeSA tests in reading, mathematics, and science were correlated for females, males, non-low-income students, low-income students, and students in each of the six racial/ethnic groups for the 13 Pilot schools combined and for each of the 13 Pilot schools,
- (2) whether there were significant differences between females and males, non-low-income students and low-income students, or any of the six racial/ethnic groups in terms of the correlations of their test scores for the 13 Pilot schools combined or at any of the 13 Pilot schools, and
- (3) whether the correlations of test scores for each of the 10 groups defined by gender, income, or race/ethnicity varied significantly from one year to the next.

The fifth and last part of this section is a report of the analysis of the correlation coefficients calculated for each of the 24 student groups defined by gender, income, and race/ethnicity. The purpose of this analysis was to determine if the scores on the ACT and NeSA tests in reading, mathematics, and science were equally correlated for the students in all of these gender-income-racial/ethnic groups, or if the tests were more highly correlated for the students in some groups, while they were less correlated for students in other groups.

The analysis of score correlations for the 24 student groups is reported only for all of the 13 Pilot schools combined, due to the low number of minority students in most of the Pilot schools. Specifically, the following findings are reported in Part 5 of this section:

- (1) for all of the 13 Pilot schools combined, the extent to which the ACT and NeSA tests in reading, mathematics, and science were correlated for each of the 24 student demographic groups defined by their gender, participation in the free-or-reduced-price meal program, and race/ethnicity,
- (2) whether there were significant differences between any of the 24 demographic groups in terms of the correlations of their test scores, and
- (3) whether the correlations of the test scores for the 24 demographic groups varied significantly from one year to the next.

Throughout this section, tables and bar graphs are used to summarize the major findings of the correlation analysis. In all of the graphs, the correlation coefficients are rounded to two decimal places to facilitate visual comparisons. However, all correlation coefficients actually were calculated to 15 decimal places. They are reported to three decimal places in the tables that are included in Part 5 of this section and the appendices of this report.

The tables in the appendices provide a full report of the correlation coefficients calculated for the purposes of this study. In these tables, each correlation coefficient is

reported along with the number of students tested, the critical value that the correlation must equal or exceed for statistical significance at the 0.05 level of probability, and the lower and upper limits of the 95% confidence interval.

As evidenced in the appendices, the number of students tested and the calculated correlation coefficient generally are reported for all of the populations defined in this study with 10 or more students. Minority groups with fewer than 10 students are listed, but the numbers of students and the associated correlation coefficients for these groups are not reported. In the cases of a few school populations, the number of students and the associated correlation coefficient of a group with more than 10 students also is not reported to prevent the number of students in a group with fewer than 10 students from being determined by subtraction. For the same reason, groups with no students also are masked, except when there were 10 or more students in every other group reported for the school.

With only a few minor exceptions, all of the reported correlations between the ACT and NeSA tests in reading, mathematics, and science are statistically significant. Of the 1,690 correlation coefficients reported in the appendices of this report, 1,669 (98.8%) are statistically significant at the 0.05 level of probability. The remaining 21 correlation coefficients are for minority groups with small sample sizes, ranging from 10 to 29 students.

Throughout the following sections of findings, differences between correlation coefficients are reported when they are statistically significant. However, the exact probability (p) of the difference between two correlation coefficients occurring by chance is reported only for the correlations based on the data for all of the 13 Pilot schools combined. Differences between schools or between student groups within the 13 school populations also are reported when they are statistically significant. However, to avoid including unnecessary details, the exact probabilities of these differences occurring by chance usually are reported only in the Microsoft Excel workbooks available upon request from the Coordinating Commission.

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Part 1: Overall Score Correlations

This section focuses on the overall score correlations of the scores on the ACT and NeSA assessment tests in reading, mathematics, and science, which were computed using the scores for all of the students in each of the school populations defined for this study. However, before presenting and discussing these correlations, it is important to compare the sample sizes on which the correlations were based.

Total Numbers of Students Tested

As shown in Table 1.1 on the next two pages, the total number of 11th graders who took the ACT and NeSA assessments in spring 2013 was almost identical to the total number tested in spring 2012. A total of 3,438 11th graders took the ACT and NeSA tests in spring 2013, compared to 3,443 in spring 2012, a decrease of only five students.

In spring 2014, a total of 3,531 11th graders were tested, which was an increase of 93 students from the preceding year. In total, 10,412 11th graders took the ACT and NeSA assessments over the course of the first three years of the ACT Pilot Project.

As also shown in Table 1.1, the number of 11th graders who took both the ACT and NeSA tests in reading, mathematics, or science ranged from 3,393 to 3,400 in spring 2012, or from 98.5% to 98.8% of the total number tested. In spring 2013, the number of 11th graders who took both the ACT and NeSA tests in reading, math, or science ranged from 3,394 to 3,399, or from 98.7% to 98.9% of the total tested. In spring 2014, the number tested in the three content areas ranged from 3,493 to 3,498, or from 98.9% to 99.1% of the total tested.

As illustrated by the ranges listed above, the percentage of the total students tested who took each of the three different tests did not vary significantly by test or from one year to the next. Of the 10,412 students who were tested between 2012 and 2014, 98.8% took the ACT and NeSA assessments in reading, 98.9% took the tests in mathematics, and 98.8% took the tests in science.

Table 1.1				
Total ACT and NeSA Tested in Reading, Math, and Science				
In 2012, 2013, and 2014 <u>by Test</u> and by School				
Part A: Spring 2012				
School Population	2012			
	Total ACT/NeSA Tested	ACT/NeSA Tested in Reading	ACT/NeSA Tested in Math	ACT/NeSA Tested in Science
All Schools	3,443	3,400	3,401	3,393
Alliance	107	106	106	106
Columbus	253	246	247	246
Gering	117	116	116	116
Hastings	237	237	237	237
Lincoln East	324	322	322	322
Lincoln High	393	389	389	388
Lincoln NE	306	300	300	298
Lincoln SE	421	415	416	413
Lincoln N Star	367	360	360	359
Lincoln SW	420	415	415	415
Scottsbluff	182	182	182	182
Sidney	68	67	67	67
South Sioux	248	245	244	244
Part B: Spring 2013				
School Population	2013			
	Total ACT/NeSA Tested	ACT/NeSA Tested in Reading	ACT/NeSA Tested in Math	ACT/NeSA Tested in Science
All Schools	3,438	3,394	3,399	3,396
Alliance	127	125	125	125
Columbus	218	217	216	217
Gering	158	154	155	154
Hastings	211	209	208	209
Lincoln East	344	344	344	344
Lincoln High	317	309	311	311
Lincoln NE	315	309	309	309
Lincoln SE	381	374	378	374
Lincoln N Star	407	403	403	403
Lincoln SW	440	437	437	437
Scottsbluff	176	173	173	173
Sidney	85	84	84	84
South Sioux	259	256	256	256

Table 1.1, Continued				
Total ACT and NeSA Tested in Reading, Math, and Science In 2012, 2013, and 2014 by Test and by School				
Part C: Spring 2014				
School Population	2014			
	Total ACT/NeSA Tested	ACT/NeSA Tested in Reading	ACT/NeSA Tested in Math	ACT/NeSA Tested in Science
All Schools	3,531	3,498	3,497	3,493
Alliance	116	114	114	114
Columbus	291	291	289	291
Gering	147	147	146	146
Hastings	225	224	224	224
Lincoln East	307	305	305	305
Lincoln High	320	314	314	313
Lincoln NE	318	313	315	312
Lincoln SE	496	493	493	493
Lincoln N Star	378	375	375	375
Lincoln SW	405	401	402	400
Scottsbluff	166	165	165	165
Sidney	77	76	75	75
South Sioux	285	280	280	280
Part D: 3 Years of Test Data Combined				
School Population	3 Years Combined			
	Total ACT/NeSA Tested	ACT/NeSA Tested in Reading	ACT/NeSA Tested in Math	ACT/NeSA Tested in Science
All Schools	10,412	10,292	10,297	10,282
Alliance	350	345	345	345
Columbus	762	754	752	754
Gering	422	417	417	416
Hastings	673	670	669	670
Lincoln East	975	971	971	971
Lincoln High	1,030	1,012	1,014	1,012
Lincoln NE	939	922	924	919
Lincoln SE	1,298	1,282	1,287	1,280
Lincoln N Star	1,152	1,138	1,138	1,137
Lincoln SW	1,265	1,253	1,254	1,252
Scottsbluff	524	520	520	520
Sidney	230	227	226	226
South Sioux	792	781	780	780

Table 1.2, beginning on the next page, directly compares the numbers of students tested over the course of the first three years of the ACT Pilot Project. As shown in Part A of this table, the total number of students tested varied noticeably by school.

The total number of 11th graders tested at the six high schools within the Lincoln public school district ranged from 306 students at Lincoln Northeast High School in 2012 to 496 students at Lincoln Southeast High School in 2014. Over the course of the three-year period, the total number of students tested within the Lincoln public school district ranged from 975 at Lincoln East High School to 1,298 students at Lincoln Southeast.

In comparison, the total number of 11th graders tested at the other seven Pilot schools ranged from 68 students at Sidney High School in 2012 to 291 students at Columbus High School in 2014. Over the course of the three-year period, the total number tested ranged from 230 students at Sidney to 792 students at South Sioux Senior High School.

As also shown in Part A of Table 1.2, the total number of students tested at each of the 13 Pilot schools varied from one year to another. The largest decrease was at Lincoln High School, where 76 fewer students were tested in 2013 than in 2012.

The largest increase in the total number of students tested was at Lincoln Southeast High School, where 115 more students were tested in 2014 than in 2013. In addition, there was a noticeable increase at Columbus High School, where 73 more students were tested in 2014 than in 2013.

In total, eight of the Pilot schools tested 221 more students in 2014 than they did in 2012, while the remaining five schools tested 133 fewer students. Consequently, when the 13 schools are combined into a single data set, only 88 more students were tested in spring 2014 than in spring 2012.

As shown in Part B, Part C, and Part D of Table 1.2, slightly greater differences between 2012 and 2014 were evidenced in the total numbers of students who took the ACT and NeSA tests in each of the three content areas. Specifically, 98 more students took the reading tests in 2014 than in 2012, 96 more students took both tests in math, and 100 more students took both tests in science.

As in the case of the total number of students tested, there were increases or decreases in the number of students who took the tests in reading, math, or science at each of the 13 Pilot schools. However, the numbers of students tested in spring 2012, 2013, and 2014, both in total and at each of the 13 Pilot schools, were sufficiently large samples for comparing the correlations of the ACT and NeSA tests in reading, mathematics, and science.

Table 1.2				
Total ACT and NeSA Tested in Reading, Math, and Science				
In 2012 and 2013 <u>by Year</u> and by School				
Part A: Total Number of Students Tested				
School Population	Total Students Tested			
	2012	2013	2014	3 Years Combined
All Schools	3,443	3,438	3,531	10,412
Alliance	107	127	116	350
Columbus	253	218	291	762
Gering	117	158	147	422
Hastings	237	211	225	673
Lincoln East	324	344	307	975
Lincoln High	393	317	320	1,030
Lincoln NE	306	315	318	939
Lincoln SE	421	381	496	1,298
Lincoln N Star	367	407	378	1,152
Lincoln SW	420	440	405	1,265
Scottsbluff	182	176	166	524
Sidney	68	85	77	230
South Sioux	248	259	285	792
Part B: Number of Students Tested in Reading				
School Population	Students Tested in Reading			
	2012	2013	2014	3 Years Combined
All Schools	3,400	3,394	3,498	10,292
Alliance	106	125	114	345
Columbus	246	217	291	754
Gering	116	154	147	417
Hastings	237	209	224	670
Lincoln East	322	344	305	971
Lincoln High	389	309	314	1,012
Lincoln NE	300	309	313	922
Lincoln SE	415	374	493	1,282
Lincoln N Star	360	403	375	1,138
Lincoln SW	415	437	401	1,253
Scottsbluff	182	173	165	520
Sidney	67	84	76	227
South Sioux	245	256	280	781
Continued on the next page.				

Table 1.2, Continued				
Total ACT and NeSA Tested in Reading, Math, and Science				
In 2012 and 2013 <u>by Year</u> and by School				
Part C: Number of Students Tested in Mathematics				
School Population	Students Tested in Mathematics			
	2012	2013	2014	3 Years Combined
All Schools	3,401	3,399	3,497	10,297
Alliance	106	125	114	345
Columbus	247	216	289	752
Gering	116	155	146	417
Hastings	237	208	224	669
Lincoln East	322	344	305	971
Lincoln High	389	311	314	1,014
Lincoln NE	300	309	315	924
Lincoln SE	416	378	493	1,287
Lincoln N Star	360	403	375	1,138
Lincoln SW	415	437	402	1,254
Scottsbluff	182	173	165	520
Sidney	67	84	75	226
South Sioux	244	256	280	780
Part D: Number of Students Tested in Science				
School Population	Students Tested in Science			
	2012	2013	2014	3 Years Combined
All Schools	3,393	3,396	3,493	10,282
Alliance	106	125	114	345
Columbus	246	217	291	754
Gering	116	154	146	416
Hastings	237	209	224	670
Lincoln East	322	344	305	971
Lincoln High	388	311	313	1,012
Lincoln NE	298	309	312	919
Lincoln SE	413	374	493	1,280
Lincoln N Star	359	403	375	1,137
Lincoln SW	415	437	400	1,252
Scottsbluff	182	173	165	520
Sidney	67	84	75	226
South Sioux	244	256	280	780

Overall Score Correlations for All Pilot Schools Combined

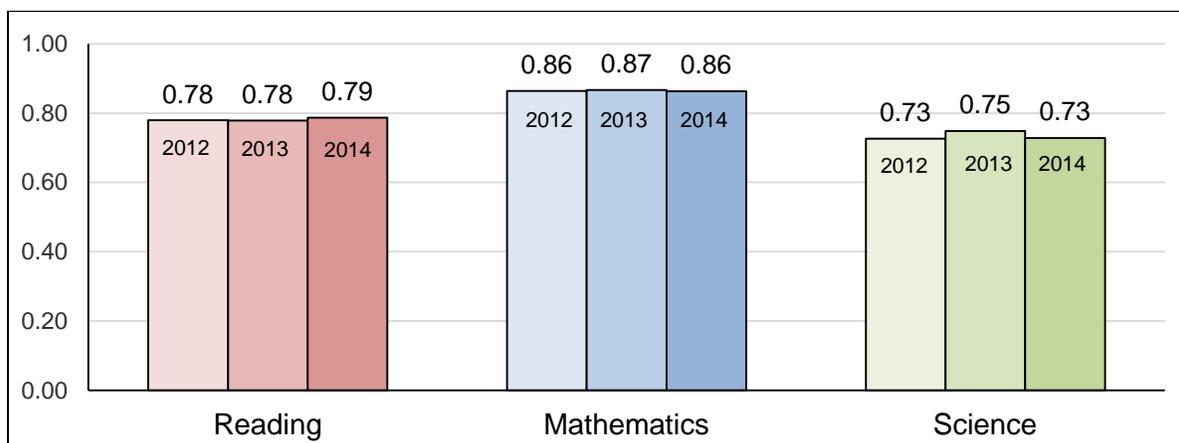
As shown in Part A of Figure 1.1 below, the correlation between the ACT and NeSA tests in **reading** for all of the Pilot schools combined was 0.78 in both spring 2012 and spring 2013, and 0.79 in spring 2014. For the ACT and NeSA tests in **mathematics**, the correlation was 0.86 in both 2012 and 2014, and 0.87 in 2013. In **science**, the correlation between the ACT and NeSA tests was 0.73 in both 2012 and 2014, and 0.75 in 2013.

With the ACT and NeSA assessment scores of each of the students tested over the three years combined into one data set, as summarized in Part B of Figure 1.1, the overall score correlations were 0.78 for the tests in **reading**, 0.86 for the tests in **mathematics**, and 0.73 for the **science** tests.

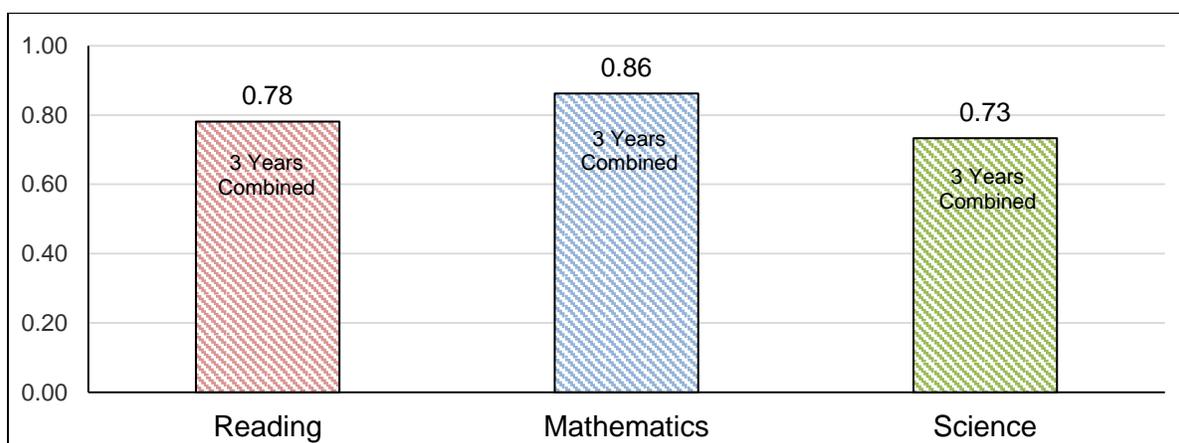
Figure 1.1

Overall Score Correlations of the ACT and NeSA Assessments Taken in Spring 2012, 2013, and 2014 All Pilot Schools Combined

Part A: Correlations by Year of Testing



Part B: Correlations for 3 Years of Testing Combined



Comparison of the Overall Score Correlations in Reading, Mathematics, and Science

Presented below, Figure 1.2 directly compares the correlations of the tests in reading, mathematics, and science for each the first three years of the ACT Pilot Project and for the three years of testing combined. The tests of the differences between these correlations revealed that the correlation of the ACT and NeSA test scores in **mathematics** was significantly higher than the correlations of the two test scores in **science** and the two test scores in **reading** for each of the three years of testing and for the three years of testing combined:

2012	Mathematics $r = 0.86$	Science $r = 0.73$	$p = 0.000$
2013	Mathematics $r = 0.87$	Science $r = 0.75$	$p = 0.000$
2014	Mathematics $r = 0.86$	Science $r = 0.73$	$p = 0.000$
3 Years Combined	Mathematics $r = 0.86$	Science $r = 0.73$	$p = 0.000$
2012	Mathematics $r = 0.86$	Reading $r = 0.78$	$p = 0.000$
2013	Mathematics $r = 0.87$	Reading $r = 0.78$	$p = 0.000$
2014	Mathematics $r = 0.86$	Reading $r = 0.79$	$p = 0.000$
3 Years Combined	Mathematics $r = 0.86$	Reading $r = 0.78$	$p = 0.000$

Also, for each of the three years of testing and for the three years of testing combined, the correlation of the ACT and NeSA test scores in **reading** was significantly higher than the correlation between the two test scores in **science**:

2012	Reading $r = 0.78$	Science $r = 0.73$	$p = 0.000$
2013	Reading $r = 0.78$	Science $r = 0.75$	$p = 0.003$
2014	Reading $r = 0.79$	Science $r = 0.73$	$p = 0.000$
3 Years Combined	Reading $r = 0.78$	Science $r = 0.73$	$p = 0.000$

Figure 1.2

Comparison of the Overall Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics, and Science Taken in Spring 2012, 2013, and 2014 All Pilot Schools Combined

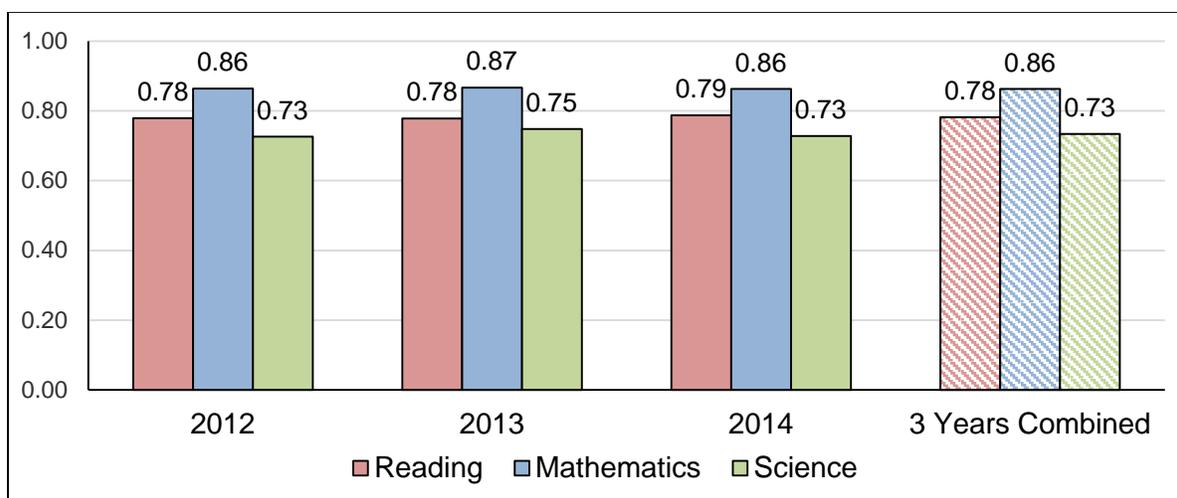


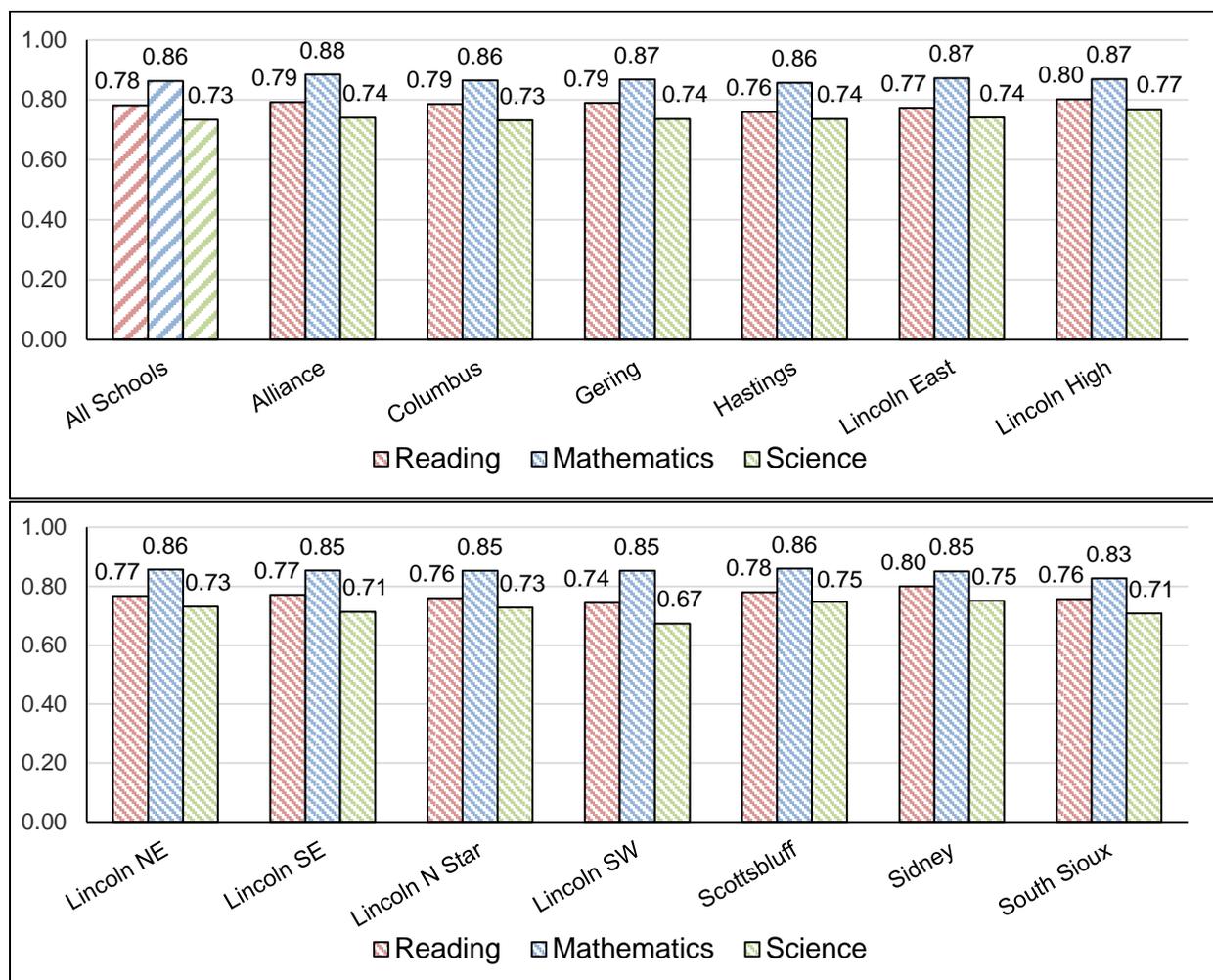
Figure 1.3 below compares the score correlations of the tests in **reading**, **mathematics**, and **science** for each of the 13 Pilot schools, as well as for all of the schools combined, when the ACT and NeSA scores of all of the students tested were combined into one data set. This illustration clearly shows that there was a consistent pattern of correlations across all of the Pilot schools. In the case of every school, the correlation of the scores on the ACT and NeSA tests in **mathematics** was higher than the score correlations of the tests in **reading** and **science**, and the score correlation of the **reading** tests was higher than the correlation of scores on the **science** tests.

For the three years of testing combined, statistical testing revealed the following:

- The score correlation of the ACT and NeSA tests in **mathematics** was significantly higher than the score correlation of the tests in **science** at each of the 13 Pilot schools.

Figure 1.3

**Comparison of the Overall Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics, and Science Taken in Spring 2012, 2013, and 2014
13 Pilot Schools and All Schools Combined
3 Years of Testing Combined**



- Similarly, the correlations of scores on the tests in **mathematics** were significantly higher than the correlations of the tests in **reading** at all of the Pilot schools, except Sidney High School, where the smallest number of students was tested each year.
- The correlations of the scores on the ACT and NeSA tests in **reading** were higher than the correlations of the scores on the **science** tests at all of the Pilot schools, but they were not always significantly higher, statistically.

Specifically, the correlation of scores on the **reading** tests was significantly higher than the correlation of scores on the **science** tests at six of the Pilot schools, namely, Columbus High School, Gering High School, Lincoln High School, Lincoln Southeast High School, Southwest High School in Lincoln, and South Sioux Senior High School. At each of the remaining seven schools, the correlation of the scores on the ACT and NeSA **reading** tests was higher, but not significantly higher, than the correlation of scores on the **science** tests.

At the school level, the results of the comparative analysis of the overall score correlations of the ACT and NeSA tests in **reading**, **mathematics**, and **science** for each of the three years of testing were essentially the same as for the three years of testing combined:

- The correlations between the ACT and NeSA tests in **mathematics** were significantly higher than the correlations between the two tests in **science** at all of the schools, except for Sidney High School in 2012 and 2013 and Scottsbluff in 2013. In 2014, the overall score correlation of the ACT and NeSA tests in mathematics was significantly higher than the score correlation of the tests in science at all 13 of the Pilot schools.
- The correlations between the ACT and NeSA tests in **mathematics** were significantly higher than the correlations between the two tests in **reading** at all of the schools, except for Sidney High School and Alliance High School in both 2012 and 2013, and three schools in 2014: Columbus High School, Sidney, and South Sioux Senior High School.
- In 2012, the correlations between the ACT and NeSA tests in **reading** were significantly higher than the correlations between the two tests in **science** at four schools: Columbus, Gering, Lincoln Southeast, and Lincoln Southwest. Similarly, in 2014, the correlations between the two reading tests were significantly higher than the correlations between the two science tests at five schools: Lincoln Southeast, Lincoln Southwest, North Star High School in Lincoln, Sidney, and South Sioux. However, in 2013, there were no significant differences between the correlations of test scores in reading and science at any of the 13 Pilot schools.

Conclusions: Based on the foregoing analysis, it can be firmly concluded that the scores on the ACT and NeSA tests in **mathematics** were more highly correlated than the scores on the **reading** and **science** tests. With only a few exceptions, the

overall correlation coefficients for the math tests were significantly higher than the overall correlation coefficients for the reading and science tests at the school level, as well as for all of the Pilot schools combined.

For all of the schools combined, the correlation of scores on the **reading** tests also was consistently and significantly higher than the correlation of scores on the **science** tests over the three years of testing. At the school level, the overall score correlations of the reading tests were higher, but not always significantly higher, than the overall score correlations of the science tests.

Note: To enable the reader to more easily refer to the remaining charts in this section, the topic of overall correlation variability begins on the next page.

Variability of the Overall Score Correlations at the School Level for Each Year of Testing

The first three series of charts in this section (Figures 1.4, 1.5, and 1.6) show the overall score correlations calculated for each of the 13 Pilot schools for each of the three years of testing. Separate charts are presented for the tests in **reading**, **mathematics**, and **science** with accompanying descriptions of the ranges of the overall score correlations for each of the three content areas and how the correlations varied from one school to another over the course of the three years of testing.

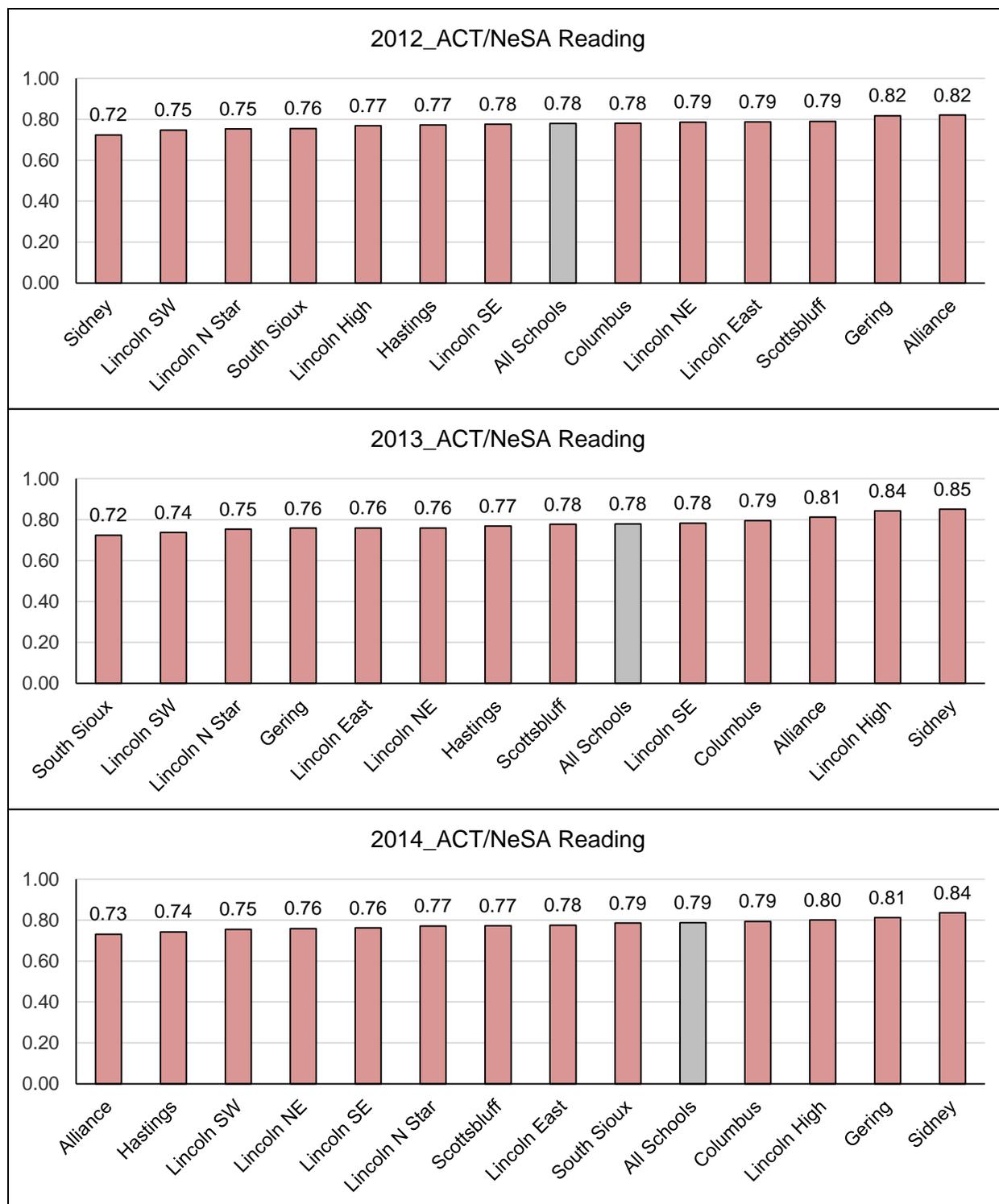
As shown in Figure 1.4 on the next page, the overall score correlations between the ACT and NeSA **reading** tests taken in spring 2012 ranged from 0.72 for the 11th graders who took the tests at Sidney High School to 0.82 for the 11th-grade students at Alliance High School. In spite of this range of coefficients, there were no significant differences between any of the overall correlation coefficients calculated for the 13 Pilot schools.

In spring 2013, the overall score correlations between the ACT and NeSA tests in reading ranged from 0.72 for South Sioux Senior High School to 0.85 for Sidney High School. Given this slightly wider range, there were significant differences between the highest and lowest correlations for the 13 Pilot schools.

In spring 2013, the score correlation of 0.85 for Sidney was significantly higher than the six lowest correlations, which ranged from 0.72 for South Sioux to 0.76 for Lincoln Northeast. With a higher sample of test takers at Lincoln High School, the school's correlation of 0.84 was significantly higher than the nine correlations that ranged from 0.72 for South Sioux to 0.78 for Lincoln Southeast. In addition, the correlation of 0.81 for Alliance was significantly higher than the correlation of 0.72 for South Sioux, which was the lowest overall correlation for the 13 Pilot schools in spring 2013.

In spring 2014, the overall score correlations between the ACT and NeSA tests in reading ranged from 0.73 at Alliance to 0.84 at Sidney. As was the case in 2012, there were no significant differences between any of the overall correlation coefficients calculated for the 13 Pilot schools.

Figure 1.4
Overall Score Correlations of the ACT and NeSA Assessments in Reading
Taken in Spring 2012, 2013, and 2014
13 Pilot Schools and All Schools Combined



As illustrated in [Figure 1.5](#) on the next page, the overall score correlations between the ACT and NeSA tests in **mathematics**, which were taken in [spring 2012](#), ranged from 0.83 for the 11th graders who took the tests at Sidney High School to 0.89 for the students tested at Lincoln East High School. From a practical perspective, this range is relatively narrow. However, there were statistically significant differences between some of the coefficients.

In 2012, the 0.89 correlation for the 11th graders at Lincoln East was significantly higher than the correlations of 0.84 for South Sioux, 0.85 for Lincoln High, and 0.86 for North Star High School in Lincoln. Similarly, the correlation of 0.89 for Hastings Senior High School was significantly higher than the 0.84 correlation for South Sioux and the 0.85 correlation for Lincoln High. However, due to the smaller sample of test takers, the 0.89 correlation for Gering High School was not significantly higher than the correlations for any of the other Pilot schools in spring 2012. Probably also due to the relatively small sample of test takers, the lowest correlation of 0.83 for Sidney High School was not significantly lower than the highest correlation of 0.89 for Lincoln East.

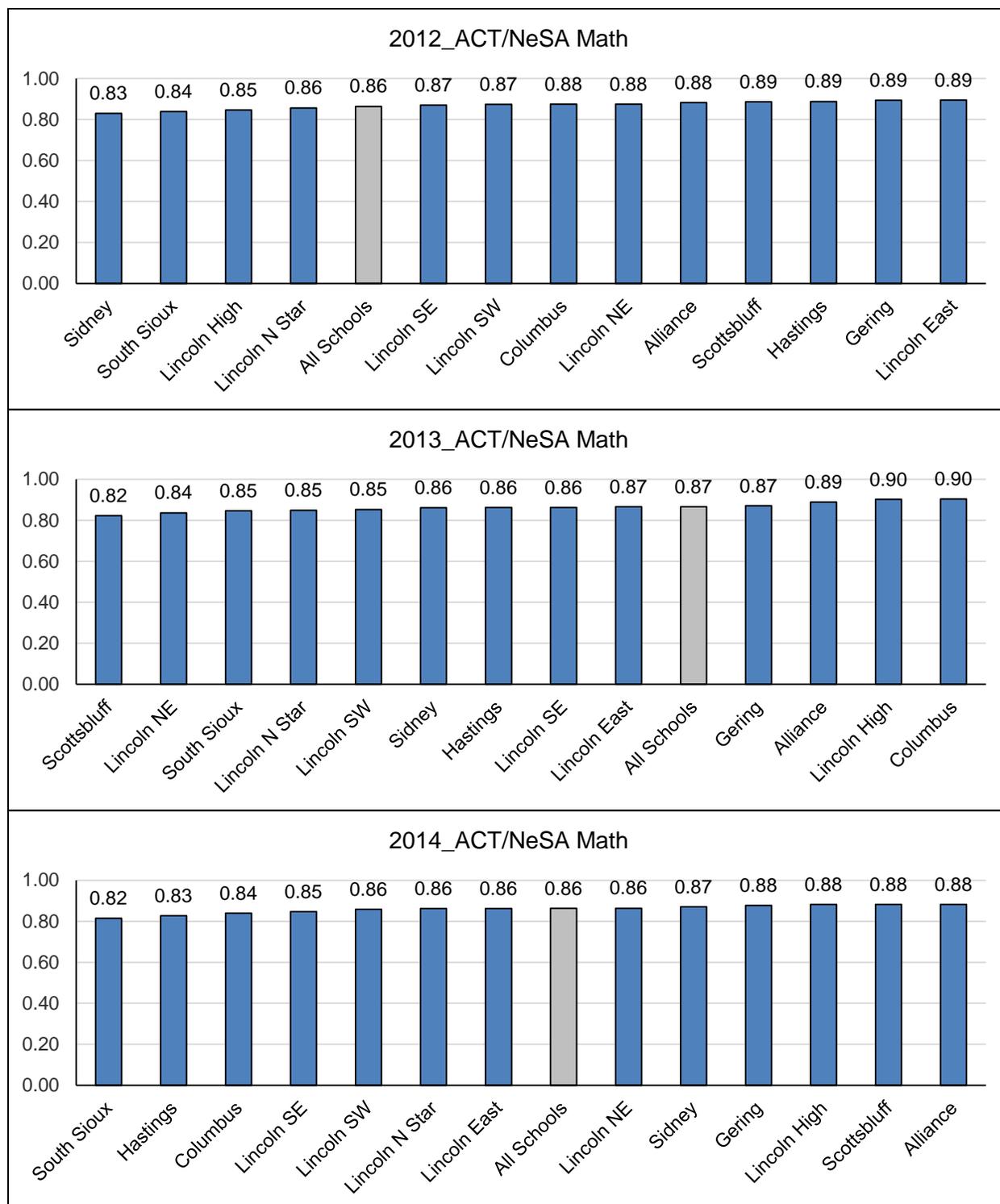
In [spring 2013](#), the overall score correlations between the ACT and NeSA tests in mathematics ranged from 0.82 for Scottsbluff Senior High to 0.90 for Columbus High School. Given this wider range of correlations, there were more statistically significant differences between schools in spring 2013 than in spring 2012.

In spring 2013, the correlations of 0.90 for Columbus High School and Lincoln High were significantly higher than the five lowest correlations of 0.82 to 0.85, and they also were significantly higher than the 0.86 correlation for Lincoln Southeast and the 0.87 correlation for Lincoln East. The 0.90 correlation for Lincoln High also was significantly higher than the 0.86 correlation for Hastings. In addition, the 0.89 correlation for Alliance was significantly higher than the 0.82 correlation for Scottsbluff.

In [spring 2014](#), the overall score correlations between the ACT and NeSA tests in mathematics ranged from 0.82 for South Sioux Senior High School to 0.88 for Alliance High School. In spite of this relatively narrow range, there were several significant differences between the lowest and highest correlation coefficients.

The eight highest overall score correlations in spring 2014, ranging from 0.86 for Lincoln North Star to 0.88 for Alliance, were all significantly higher than the 0.82 correlation for South Sioux, except for Sidney High School, which had a correlation of 0.87 but a relatively small number of students tested. The correlations of 0.88 for both Lincoln High and Scottsbluff also were significantly higher than the 0.83 correlation for Hastings. In addition, the correlation of 0.88 for Lincoln High was significantly higher than the 0.84 correlation calculated for Columbus High School.

Figure 1.5
Overall Score Correlations of the ACT and NeSA Assessments in Mathematics
Taken in Spring 2012, 2013, and 2014
13 Pilot Schools and All Schools Combined



As shown in [Figure 1.6](#) on the next page, the overall score correlations between the ACT and NeSA **science** tests taken in [spring 2012](#) ranged from 0.64 for the 11th graders who took the tests at Southwest High School in Lincoln to 0.77 for the 11th graders at Lincoln Northeast High School. Not surprisingly, the 0.64 correlation for Lincoln Southwest was significantly lower than the higher correlations that ranged from 0.74 for Lincoln North Star to 0.77 for Lincoln Northeast.

In [spring 2013](#), the overall score correlations between the ACT and NeSA tests in science ranged from 0.70 for Lincoln Northeast to 0.80 at Lincoln High School. In the case of this range of correlations, the 0.80 correlation for Lincoln High was significantly higher than the five lowest correlations, which ranged from 0.70 for Lincoln Northeast to 0.73 for Lincoln Southwest.

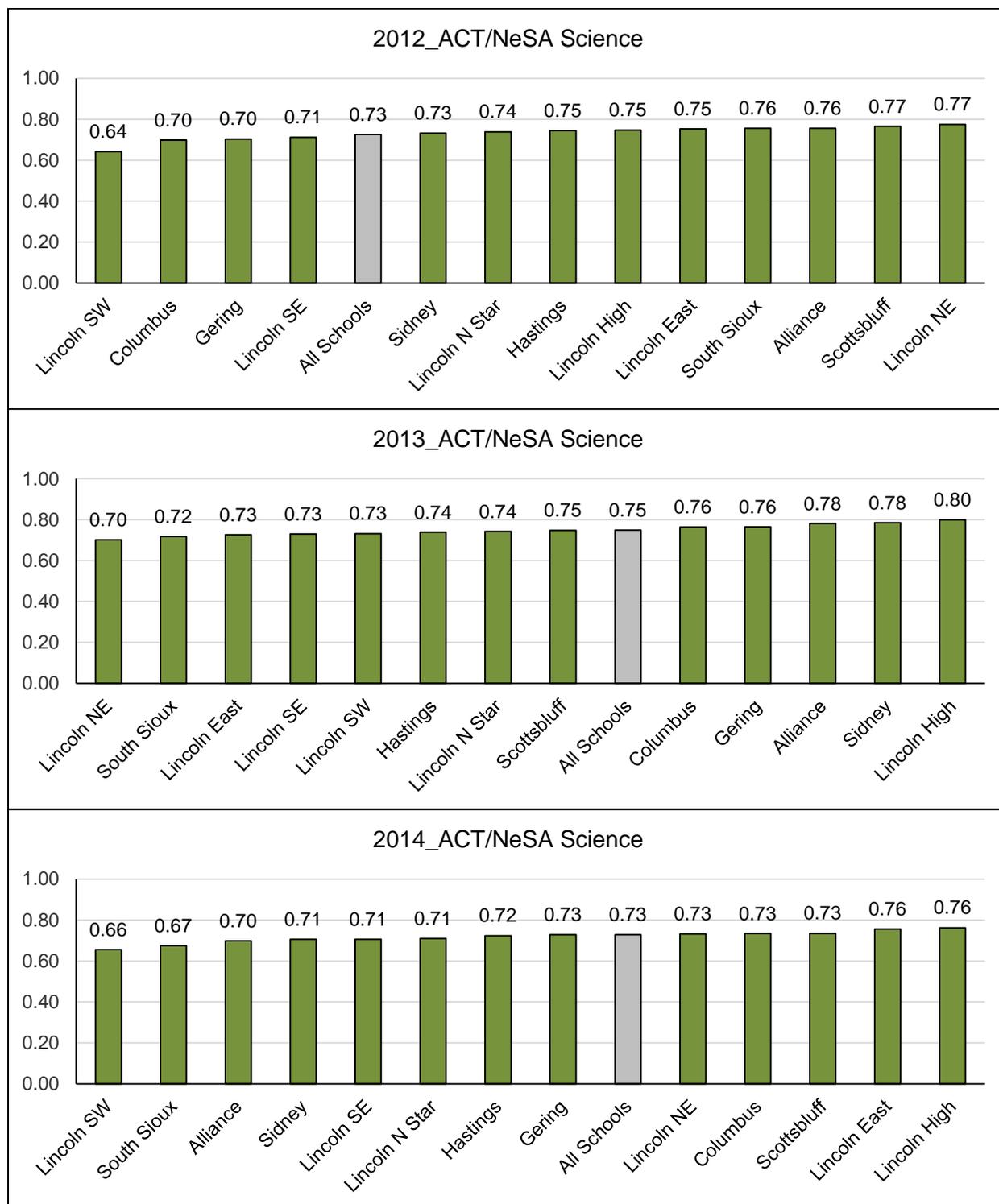
The overall score correlations between the ACT and NeSA **science** tests taken in [spring 2014](#) ranged from 0.66 for the 11th graders who took the tests at Southwest High School in Lincoln to 0.76 for the 11th graders tested at Lincoln High School. Given this relatively narrow range, there were only a few significant differences between the correlation coefficients calculated for the 13 Pilot schools.

In [spring 2014](#), the overall score correlation of 0.76 for the science tests at Lincoln High and Lincoln East were both significantly higher than the correlations of 0.66 for Lincoln Southwest and 0.67 for South Sioux Senior High School. In addition, the 0.73 correlation for Columbus High School and Lincoln Northeast were significantly higher than the 0.66 correlation for Lincoln Southwest.

Conclusions: The statistical analysis of data at the school level indicated that the overall score correlations of the ACT and NeSA tests in reading, mathematics, and science sometimes varied significantly from one Pilot school to another for the students who took the ACT and NeSA assessments in spring 2012, 2013, or 2014. The two exceptions were the sets of correlations for the **reading** tests taken in spring 2012 and spring 2014. In these cases, there were no significant differences between any of the overall score correlation coefficients calculated for the 13 Pilot schools. However, for the **reading** tests taken in 2013, and for the **mathematics** and **science** tests taken in 2012, 2013, and 2014, there were at least five and as many as 16 significant differences between the overall correlation coefficients calculated at the school level.

Another conclusion of the above school-level correlation analysis was that the ranges of overall correlation coefficients for the ACT and NeSA tests in **mathematics** administered in 2012, 2013, and 2014 were narrower than the ranges of the correlation coefficients for the tests in **reading** and **science**. This finding indicated that the ACT and NeSA tests in **mathematics** were not only more highly correlated than the tests in **reading** and **science**, but also more consistently correlated across all of the Pilot schools for each of the three years of testing.

Figure 1.6
Overall Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2012, 2013, and 2014
13 Pilot Schools and All Schools Combined



Variability of the Overall Score Correlations at the School Level for the Three Years of Testing Combined

Figure 1.7 on the next page shows the overall score correlations of each of the 13 Pilot schools for the reading, mathematics, and science tests when the three years of test scores were combined into one data set. With the three years of testing combined, the range of correlation coefficients were noticeably different for the three subject areas, and there were significant differences between the highest and lowest correlations.

For the ACT and NeSA tests in **reading**, the overall score correlations ranged from 0.74 for Lincoln Southwest to 0.80 for Lincoln High, a difference of 0.06. The range of overall score correlations was higher but only slightly narrower for the tests in **mathematics**: 0.83 for South Sioux to 0.88 for Alliance, a difference of 0.05. In comparison, the range of overall score correlations for the tests in **science** was noticeably lower and broader, ranging 0.67 for Lincoln Southwest to 0.77 for Lincoln High, a difference of 0.10.

For the ACT and NeSA tests in **reading**, the correlation of 0.80 for Lincoln High was significantly higher than the five lowest correlations, ranging from 0.74 for Lincoln Southwest to 0.77 for Lincoln Northeast. Based on smaller numbers of tested students, the correlations of 0.79 or 0.80 for Columbus, Gering, Alliance, and Sidney were significantly higher than only the lowest score correlation of 0.74 for Lincoln Southwest.

For the ACT and NeSA tests in **mathematics**, the highest correlation of 0.88 for Alliance was significantly higher than the lowest correlation of 0.83 for South Sioux. The 0.88 correlation for Alliance also was significantly higher than the 0.85 correlations for Lincoln Southwest, Lincoln North Star, and Lincoln Southeast. That the correlation of 0.88 for Alliance was not significantly higher than the correlation of 0.85 for Sidney was probably due to the relatively small number of students tested at Sidney.

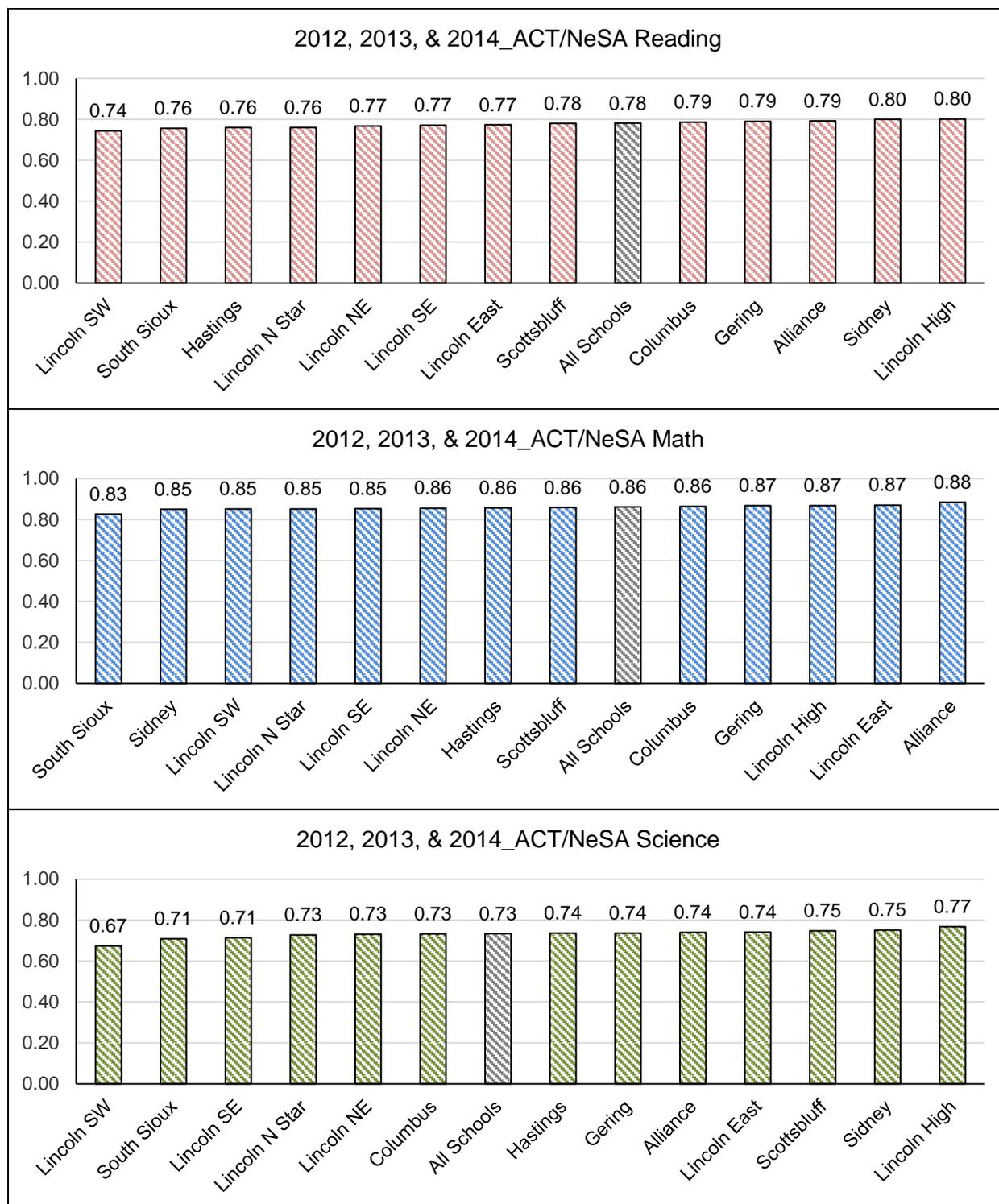
More importantly, the lowest correlation of 0.83 for South Sioux was significantly lower than the nine correlations that ranged from 0.85 for Lincoln Southeast to 0.88 for Alliance. This finding suggests that South Sioux's overall correlation of scores on the mathematics test was unusually low, compared to the correlations evidenced for the other Pilot schools.

Comparable findings were evidenced when the correlation of scores on the ACT and NeSA tests in **science** were analyzed with the three years of testing combined. In this case, the highest correlation of 0.77 for Lincoln High was significantly higher than the lowest four correlations, ranging from 0.67 for Lincoln Southwest to 0.73 for Lincoln North Star.

Similar to the correlation for South Sioux in the case of the mathematics tests, the overall score correlation of 0.67 for Lincoln Southwest for the tests in science was significantly lower than the correlation calculated for 11 of the 12 other Pilot schools, including Lincoln High, as mentioned above. Again, this finding indicates that the correlation of the scores on the math tests taken at Lincoln Southwest was unusually low, compared to the correlations evidenced for the other Pilot schools.

Figure 1.7

**Overall Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2012, 2013, and 2014 with 3 Years of Testing Combined
13 Pilot Schools and All Schools Combined**



Conclusions: The analysis of the overall score correlation coefficients based on the three years of testing combined clearly indicated that the ACT and NeSA tests in **mathematics** were not only more highly correlated than the tests in **reading** and **science**, but also more consistently correlated across all of the Pilot schools. The comparative analysis also revealed that there definitely were schools with significantly higher or lower overall score correlations than other schools participating in the ACT Pilot Project.

Stability of the Overall Score Correlations Over the Three Years of Testing

In addition to the foregoing analyses, statistical tests were conducted to determine if any of the overall score correlations significantly increased or decreased over the course of the three years of testing. Based on the results of this analysis, it was determined that it was legitimate to combine the ACT and NeSA scores of each of the students tested in 2012, 2013, or 2014 into one data set for analysis.

For all of the Pilot schools combined, there were no significant increases or decreases in the overall score correlations of the ACE and NeSA tests in **reading** or **mathematics** over the three years of testing. For the **science** tests, the correlation of 0.75 in 2013 was significantly higher, statistically, than the correlation of 0.73 in 2012 ($p = 0.042$) and close to significantly higher than the correlation of 0.73 in 2014 ($p = 0.068$). However, the 0.02 difference in these correlations did not preclude combining the three years of tests for the purpose of analysis.

At the school level, there were only two significant increases in the correlation of scores on the ACT and NeSA **reading** tests between 2012 and 2013, and there were no significant increases or decreases between 2013 and 2014 or between 2012 and 2014. For Lincoln High, the correlation of the reading test scores significantly increased from 0.77 in spring 2012 to 0.84 in spring 2013. In the case of Sidney High School, the correlation of scores on the reading tests significantly increased from 0.72, which was the lowest overall score correlation for the 13 Pilot schools in 2012, to 0.85, which was the highest correlation in 2013. In spring 2014, the corresponding correlation for Sidney was 0.84, which was again the highest correlation among the 13 Pilot schools.

As was the case with the correlations of the ACT and NeSA tests in reading, there were only two significant differences between the score correlations for the tests in **mathematics** in spring 2012 and spring 2013. The correlation of the math test scores for Lincoln High School increased significantly, from 0.85 in 2012 to 0.90 in 2013. On the other hand, there was a statistically significant decrease in the correlation of the math scores, from 0.89 in 2012 to 0.82 in 2013, for the 11th graders who took the ACT and NeSA tests at Scottsbluff Senior High School.

After decreasing between 2012 and 2013, the overall score correlation for the tests in mathematics taken at Scottsbluff significantly increased from 0.82 in spring 2013 to 0.88 in spring 2014. Over the same period, the overall score correlation of the mathematics tests taken at Columbus significantly decreased from 0.90 in spring 2013 to 0.84 in spring 2014.

Comparing the overall score correlations of the mathematics tests in 2014 to those two years earlier revealed only one significant change. Over the two-year period, the overall score correlation of the ACT and NeSA tests in mathematics taken at Hastings Senior High School significantly decreased from 0.89 in 2012 to 0.83 in 2014.

Again, as was the case with the score correlations for the tests in reading and math, there were only two significant changes in the score correlations for the tests in **science** between spring 2012 and spring 2013. In addition, there was only one significant change between spring 2013 and spring 2014 and no significant increases or decreases between 2012 and 2014.

Between spring 2012 and spring 2013, the overall score correlation of the science tests taken at Lincoln Northeast decreased significantly, from 0.77 to 0.70. Conversely, the correlation for Lincoln Southwest significantly increased, from 0.64 in 2012 to 0.73 in 2013, and then significantly decreased, from 0.73 in 2013 to 0.66 in 2014.

Conclusions: For all of the Pilot schools combined, the comparison of the overall score correlations over time revealed that there was a small, but statistically significant, increase in the correlation of the scores on the **science** tests between spring 2012 and spring 2013. However, this correlation returned to its spring 2012 level in spring 2014, and there were no significant or even noteworthy changes in the overall score correlations for the **reading** and **mathematics** tests between 2012 and 2014.

At the school level, there were no more than two statistically significant increases or decreases between 2012 and 2013 or between 2013 and 2014 in the overall score correlations of the ACT and NeSA tests in **reading**, **mathematics**, or **science**. In addition, there was only one two-year change between 2012 and 2014 that was statistically significant, and this change was in the correlation of the math tests for one school.

In total, there were only 11 statistically significant increases or decreases in the overall score correlations at the school level and for all the of the Pilot schools combined, accounting for only 8.7% of the 126 comparisons required to analyze these correlations over time. Consequently, the findings of the analysis clearly indicated that the overall score correlations of the ACT and NeSA tests in all three content areas were relatively stable over the first three years of the ACT Pilot Project and that, as a result, it was acceptable to combine the three years of test data for the purpose of summary analysis, in addition to separately analyzing the overall score correlations for each year of testing.

See Table A1.1, Table A1.2, Table A1.3, and Figure A1.4 in Appendix 1 for the critical value and 95% confidence interval associated with each of the overall score correlations for the tests in reading, mathematics, and science for all of the Pilot schools combined and each of the 13 Pilot schools for each of the three years of testing and for the three years of testing combined.

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Part 2: Score Correlations for Females and Males

This section presents the findings of the correlation analysis of the scores on the ACT and NeSA assessment tests in reading, mathematics, and science for the females and males within each school population, including the 13 Pilot schools combined. The purpose of this analysis was to determine if the scores on the ACT and NeSA tests in reading, mathematics, and science were equally correlated for females and males.

Numbers of Students Tested

As shown in [Table 2.1](#), beginning on the next page, only a slightly higher number of females, as compared to males, took the ACT and NeSA tests at the 13 Pilot schools in spring 2012, spring 2013, or spring 2014. In 2012, for example, 1,716 females took the ACT and NeSA tests in reading, compared to 1,684 males. Likewise, in 2014, 1,761 females took the reading tests, compared to 1,737 males.

For the 13 Pilot schools combined, females accounted for slightly more than 50% of the 11th graders who took the ACT and NeSA tests in reading, mathematics, or science each of the three years of testing, while males accounted for slightly less than 50% of the students tested. When the three years of testing were combined, females accounted for 50.3% or 50.4% of the students who took the ACT and NeSA tests in reading, mathematics, or science, while males accounted for 49.6% or 49.7%, depending on the content area of the tests.

The smallest samples of females and males who took the ACT and NeSA tests as 11th graders were at Sidney High School, where 38 females and 29 males were tested in 2012. In comparison, the largest samples were at Southwest High School in Lincoln, where 241 females and 251 males were tested in 2014.

As the above examples illustrate, the samples of females and males varied from one school to another. Furthermore, as shown in [Table 2.1](#), the numbers of students tested at each Pilot school varied at least slightly from one year to the next. However, all of the samples were of sufficient size and stability to test the hypothesis that the scores on the ACT and NeSA tests were equally correlated for the females and males who took the two assessments in 2012, 2013, or 2014.

Table 2.1
Number of Females and Males Who Took the ACT and NeSA Tests
in Reading, Math, and Science by Year and by School

Part A: Number of Students Tested in Reading						
School Population	2012			2013		
	Females	Males	Total Tested	Females	Males	Total Tested
All Schools	1,716	1,684	3,400	1,706	1,688	3,394
Alliance	54	52	106	63	62	125
Columbus	109	137	246	103	114	217
Gering	61	55	116	74	80	154
Hastings	125	112	237	96	113	209
Lincoln East	173	149	322	167	177	344
Lincoln High	209	180	389	164	145	309
Lincoln NE	144	156	300	149	160	309
Lincoln SE	201	214	415	194	180	374
Lincoln N Star	191	169	360	199	204	403
Lincoln SW	197	218	415	231	206	437
Scottsbluff	93	89	182	95	78	173
Sidney	38	29	67	42	42	84
South Sioux	121	124	245	129	127	256
School Population	2014			3 Years Combined		
	Females	Males	Total Tested	Females	Males	Total Tested
All Schools	1,761	1,737	3,498	5,183	5,109	10,292
Alliance	55	59	114	172	173	345
Columbus	158	133	291	370	384	754
Gering	80	67	147	215	202	417
Hastings	96	128	224	317	353	670
Lincoln East	164	141	305	504	467	971
Lincoln High	158	156	314	531	481	1,012
Lincoln NE	161	152	313	454	468	922
Lincoln SE	242	251	493	637	645	1,282
Lincoln N Star	192	183	375	582	556	1,138
Lincoln SW	203	198	401	631	622	1,253
Scottsbluff	79	86	165	267	253	520
Sidney	37	39	76	117	110	227
South Sioux	136	144	280	386	395	781

Continued on the next page.

Table 2.1, Continued
Number of Females and Males Who Took the ACT and NeSA Tests
in Reading, Math, and Science by Year and by School

Part B: Number of Students Tested in Mathematics						
School Population	2012			2013		
	Females	Males	Total Tested	Females	Males	Total Tested
All Schools	1,716	1,685	3,401	1,708	1,691	3,399
Alliance	54	52	106	63	62	125
Columbus	109	138	247	103	113	216
Gering	61	55	116	74	81	155
Hastings	125	112	237	95	113	208
Lincoln East	173	149	322	167	177	344
Lincoln High	209	180	389	165	146	311
Lincoln NE	145	155	300	149	160	309
Lincoln SE	201	215	416	196	182	378
Lincoln N Star	191	169	360	199	204	403
Lincoln SW	197	218	415	231	206	437
Scottsbluff	93	89	182	95	78	173
Sidney	38	29	67	42	42	84
South Sioux	120	124	244	129	127	256
School Population	2014			3 Years Combined		
	Females	Males	Total Tested	Females	Males	Total Tested
All Schools	1,760	1,737	3,497	5,184	5,113	10,297
Alliance	55	59	114	172	173	345
Columbus	157	132	289	369	383	752
Gering	79	67	146	214	203	417
Hastings	96	128	224	316	353	669
Lincoln East	164	141	305	504	467	971
Lincoln High	158	156	314	532	482	1,014
Lincoln NE	161	154	315	455	469	924
Lincoln SE	242	251	493	639	648	1,287
Lincoln N Star	192	183	375	582	556	1,138
Lincoln SW	204	198	402	632	622	1,254
Scottsbluff	79	86	165	267	253	520
Sidney	37	38	75	117	109	226
South Sioux	136	144	280	385	395	780

Continued on the next page.

Table 2.1, Continued
Number of Females and Males Who Took the ACT and NeSA Tests
in Reading, Math, and Science by Year and by School

Part C: Number of Students Tested in Science						
School Population	2012			2013		
	Females	Males	Total Tested	Females	Males	Total Tested
All Schools	1,712	1,681	3,393	1,707	1,689	3,396
Alliance	54	52	106	63	62	125
Columbus	108	138	246	103	114	217
Gering	61	55	116	74	80	154
Hastings	125	112	237	96	113	209
Lincoln East	173	149	322	167	177	344
Lincoln High	208	180	388	165	146	311
Lincoln NE	143	155	298	149	160	309
Lincoln SE	201	212	413	194	180	374
Lincoln N Star	191	168	359	199	204	403
Lincoln SW	197	218	415	231	206	437
Scottsbluff	93	89	182	95	78	173
Sidney	38	29	67	42	42	84
South Sioux	120	124	244	129	127	256
School Population	2014			3 Years Combined		
	Females	Males	Total Tested	Females	Males	Total Tested
All Schools	1,758	1,735	3,493	5,177	5,105	10,282
Alliance	55	59	114	172	173	345
Columbus	158	133	291	369	385	754
Gering	79	67	146	214	202	416
Hastings	96	128	224	317	353	670
Lincoln East	164	141	305	504	467	971
Lincoln High	157	156	313	530	482	1,012
Lincoln NE	160	152	312	452	467	919
Lincoln SE	242	251	493	637	643	1,280
Lincoln N Star	192	183	375	582	555	1,137
Lincoln SW	203	197	400	631	621	1,252
Scottsbluff	79	86	165	267	253	520
Sidney	37	38	75	117	109	226
South Sioux	136	144	280	385	395	780

Score Correlations for Females and Males: Reading

Beginning on the next page, [Figure 2.1a](#), [Figure 2.1b](#), and [Figure 2.1c](#) directly compare the correlations of the scores on the ACT and NeSA tests in **reading** for the females and males who took the tests as 11th graders in 2012, 2013, and 2014, respectively. Following these three charts, [Figure 2.1d](#) compares the score correlations for the male and female 11th graders who took the two reading tests with the three years of testing combined. In each figure, the correlations calculated for the 13 Pilot schools combined (all schools) are shown along with the correlations calculated for each of the schools. Pairs of correlations that were found to be significantly different at the 0.05 level of probability are highlighted in “bold” print.

For all of the Pilot schools combined, the correlations of scores on the ACT and NeSA tests in reading were significantly higher for female students than for their male classmates in 2012, 2014, and for the three years of testing combined. As also summarized below, the 0.03 difference between the 0.79 correlation for females and the 0.76 correlation for males in 2013 was close to statistically significant ($p = 0.056$). As a result, these findings indicate that, for all of the Pilot schools combined, the ACT and NeSA tests in reading were more highly correlated for the female students than for their male classmates.

2012	Females	$r = 0.80$	Males	$r = 0.76$	$p = 0.013$
2013	Females	$r = 0.79$	Males	$r = 0.76$	$p = 0.056$
2014	Females	$r = 0.80$	Males	$r = 0.77$	$p = 0.018$
3 Years Combined	Females	$r = 0.80$	Males	$r = 0.76$	$p = 0.000$

At the school level, the correlations of scores on the reading tests were at least slightly higher for females than for males at eight of the Pilot schools in 2012 and 2014, and at 11 of the 13 Pilot schools in 2013. Likewise, the score correlations for females were higher than those for males at 11 schools when the three years of testing were combined. However, due to smaller samples at the school level, the differences between the score correlations calculated for females and males were statistically significant in only a few cases in 2012, 2013, and 2014.

As highlighted in [Figure 2.1a](#) for spring 2012, the correlations of scores on the reading tests were significantly higher for females than for males at three of the Pilot schools: Lincoln Southeast, North Star High School in Lincoln, and Sidney High School.

As illustrated in [Figure 2.1b](#) for spring 2013, the 0.12 difference between the 0.91 correlation for females and the 0.79 correlation for males who were tested at Sidney High School approached significance ($p = 0.054$). However, there were no other statistically significant differences between the score correlations for females and males who were tested at any of the Pilot schools in spring 2013.

As highlighted in [Figure 2.1c](#), the score correlations for females were significantly higher than for males at only two schools in 2014: Lincoln Northeast and Lincoln Southwest. However, when the three years of testing were combined with resulting

larger samples, as illustrated in [Figure 2.1d](#), females had significantly higher correlations of scores on the reading tests than males at five of the Pilot schools, namely, Lincoln High, Lincoln Northeast, Lincoln Southeast, Scottsbluff, and Sidney.

Conclusions: For all of the Pilot schools combined, the foregoing analysis clearly indicated that the scores on the ACT and NeSA tests in **reading** were not equally correlated for the female and male 11th graders tested in 2012, 2013, and 2014 and, instead, were more highly correlated for females than for their male classmates. At the school level, the correlations of scores on the reading tests also tended to be higher for females than for males, even though statistically significant differences were evidenced at only three of the 13 Pilot schools in 2012 and at only two schools in 2014.

Figure 2.1a

Score Correlations of the ACT and NeSA Assessments in Reading Taken in Spring 2012 for Females and Males



Figure 2.1b
Score Correlations of the ACT and NeSA Assessments in Reading
Taken in Spring 2013 for Females and Males

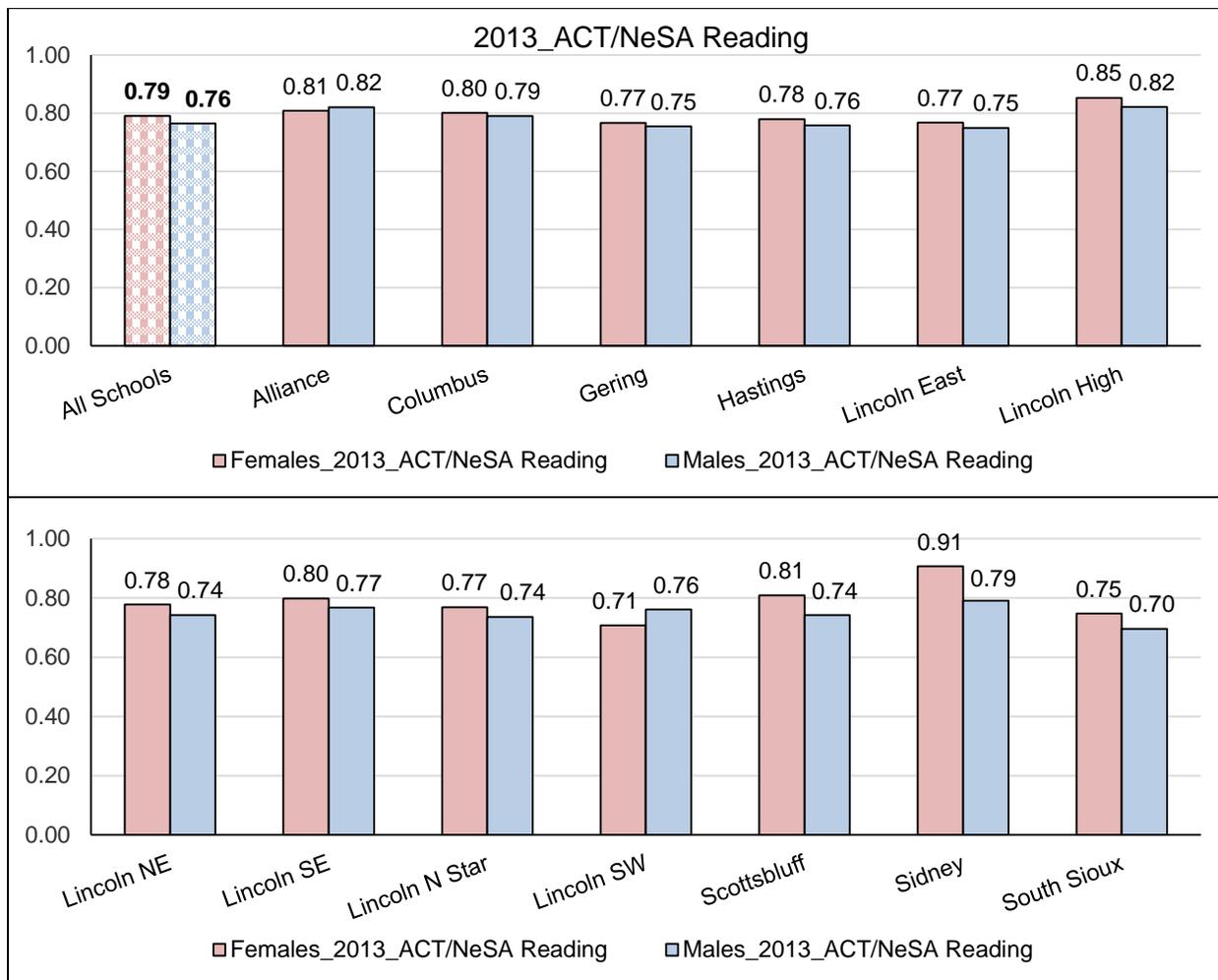


Figure 2.1c
Score Correlations of the ACT and NeSA Assessments in Reading
Taken in Spring 2014 for Females and Males

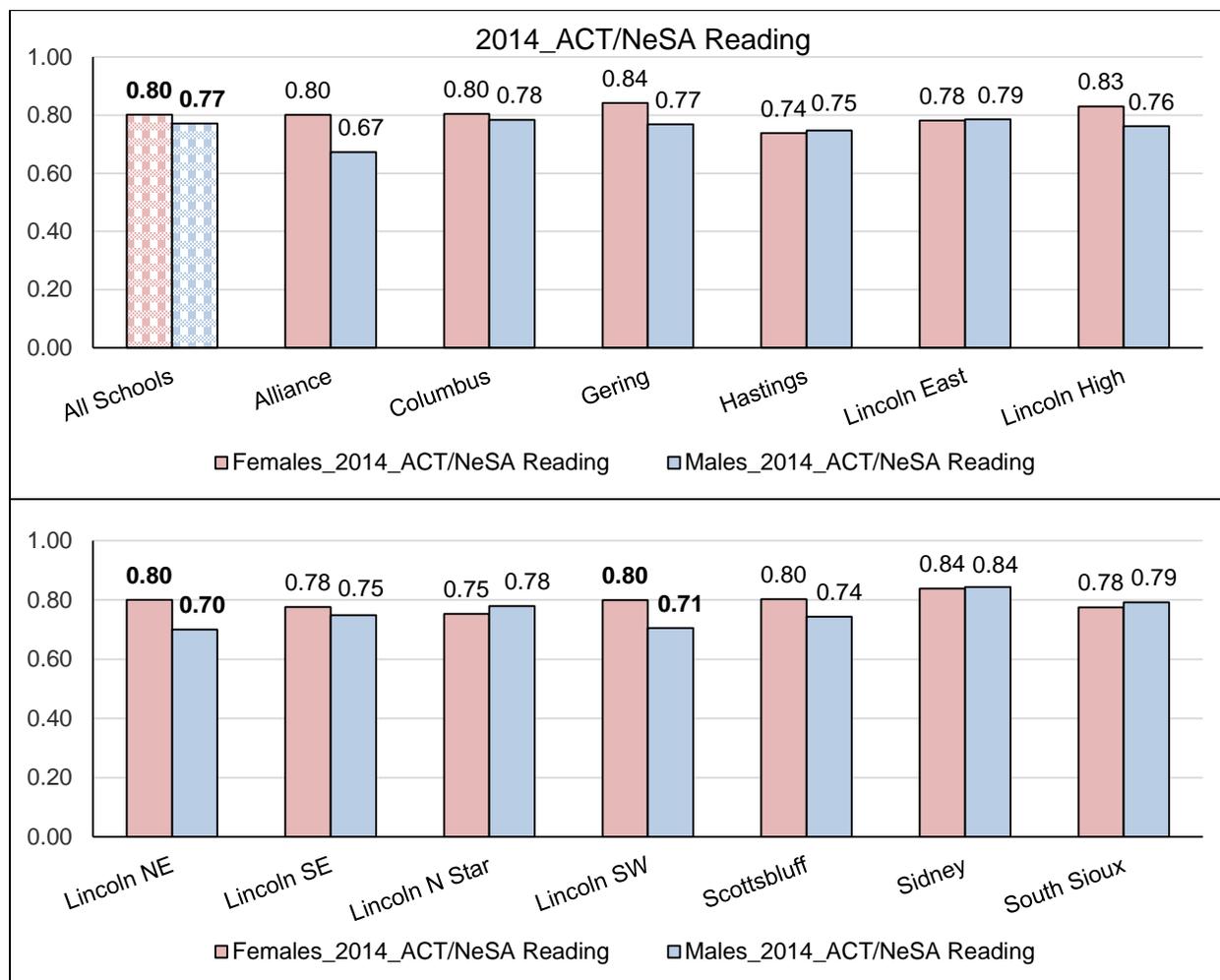
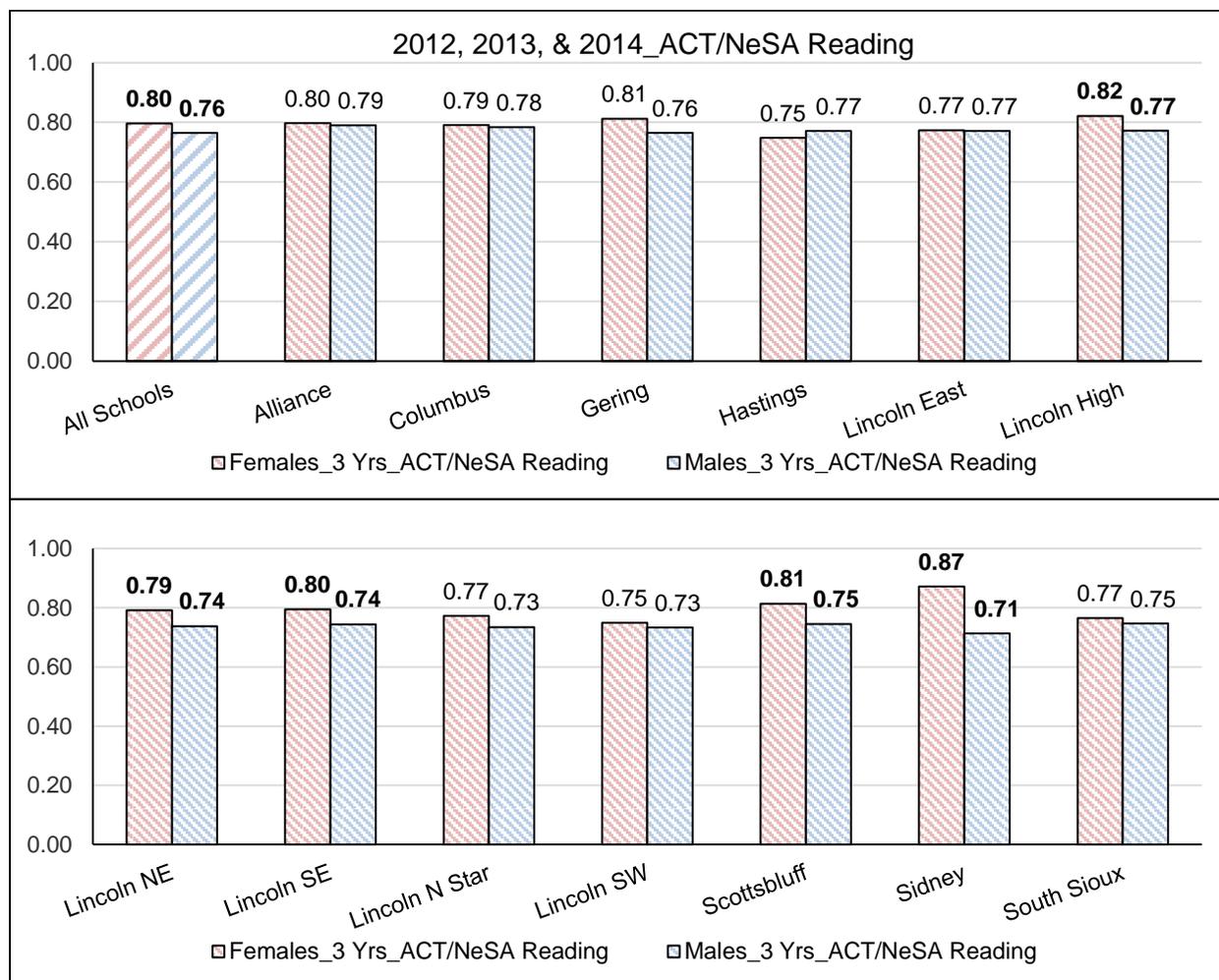


Figure 2.1d
Score Correlations of the ACT and NeSA Assessments in Reading
Taken in Spring 2012, 2013, and 2014 for Females and Males
3 Years of Testing Combined



Score Correlations for Females and Males: Mathematics

Figure 2.2a, Figure 2.2b, and Figure 2.2c on the following three pages directly compare the correlation of scores on the ACT and NeSA tests in **mathematics** for the females and males who took the two tests in 2012, 2013, and 2014, respectively. Figure 2.2d compares the score correlations for the male and female 11th graders who took the two tests in mathematics with the three years of testing combined.

For the 13 Pilot schools combined, the correlations of scores on the math tests were almost equal in 2012 and 2013. In 2012, the correlation of scores on the ACT and NeSA math tests was 0.86 for females and 0.87 for males. In 2013, the correlation for females was 0.87 and 0.86 for males. In 2014 and for the three years of testing combined, the score correlations were equal: 0.86 for females and 0.86 for males.

At the school level, in both 2012 and 2013, there were only two schools where there were significant differences between the math score correlations for the female and male students. In 2014 and for the three years of testing combined, there were no statistically significant differences between the correlations of scores on the tests in mathematics for the female and male 11th graders who were tested.

In 2012, as highlighted in Figure 2.2a on the next page, the 0.82 correlation for females was significantly lower than the 0.88 correlation for males at Lincoln High School. Conversely, the 0.92 correlation for females tested at Scottsbluff Senior High School was significantly higher than the 0.86 correlation for males.

In 2013, as highlighted in Figure 2.2b, there were significant differences between the correlations for females and males at Alliance High School and North Star High School in Lincoln. In the case of Alliance, the 0.82 correlation for females was significantly lower than the 0.92 correlation for males. Conversely, the 0.88 correlation for females at Lincoln North Star was significantly higher than the 0.82 correlation for males.

Conclusions: The analysis summarized above provided no evidence that the correlations of scores on the ACT and NeSA tests in **mathematics** were consistently higher or lower for females than they were for males, when these correlations were analyzed at the school level. Furthermore, the score correlations for females and males were equal or almost equal when the data from the 13 Pilot schools were combined into one data set for each of the three years of testing and for the three years of testing combined.

Figure 2.2a
Score Correlations of the ACT and NeSA Assessments in Mathematics
Taken in Spring 2012 for Females and Males

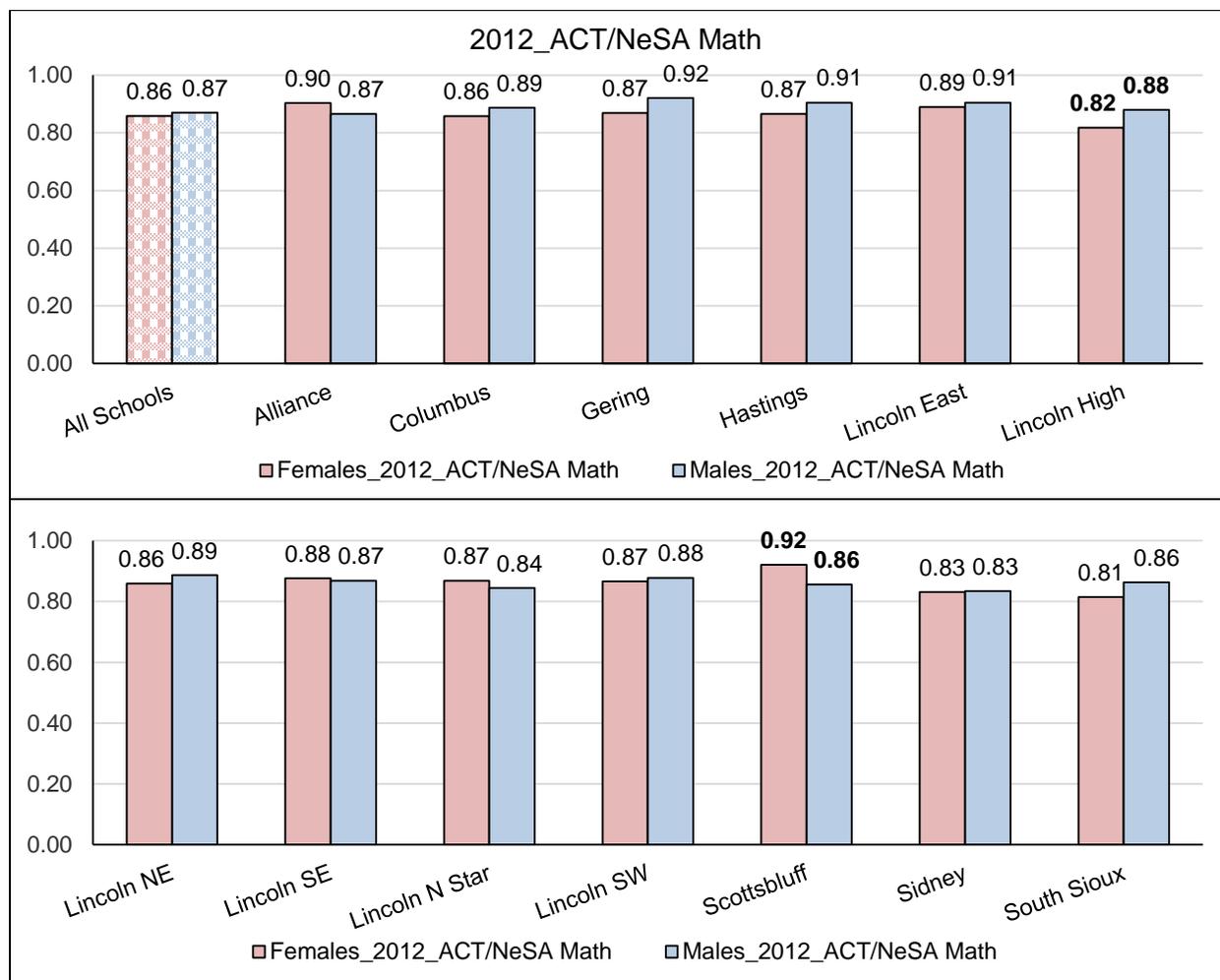


Figure 2.2b
Score Correlations of the ACT and NeSA Assessments in Mathematics
Taken in Spring 2013 for Females and Males

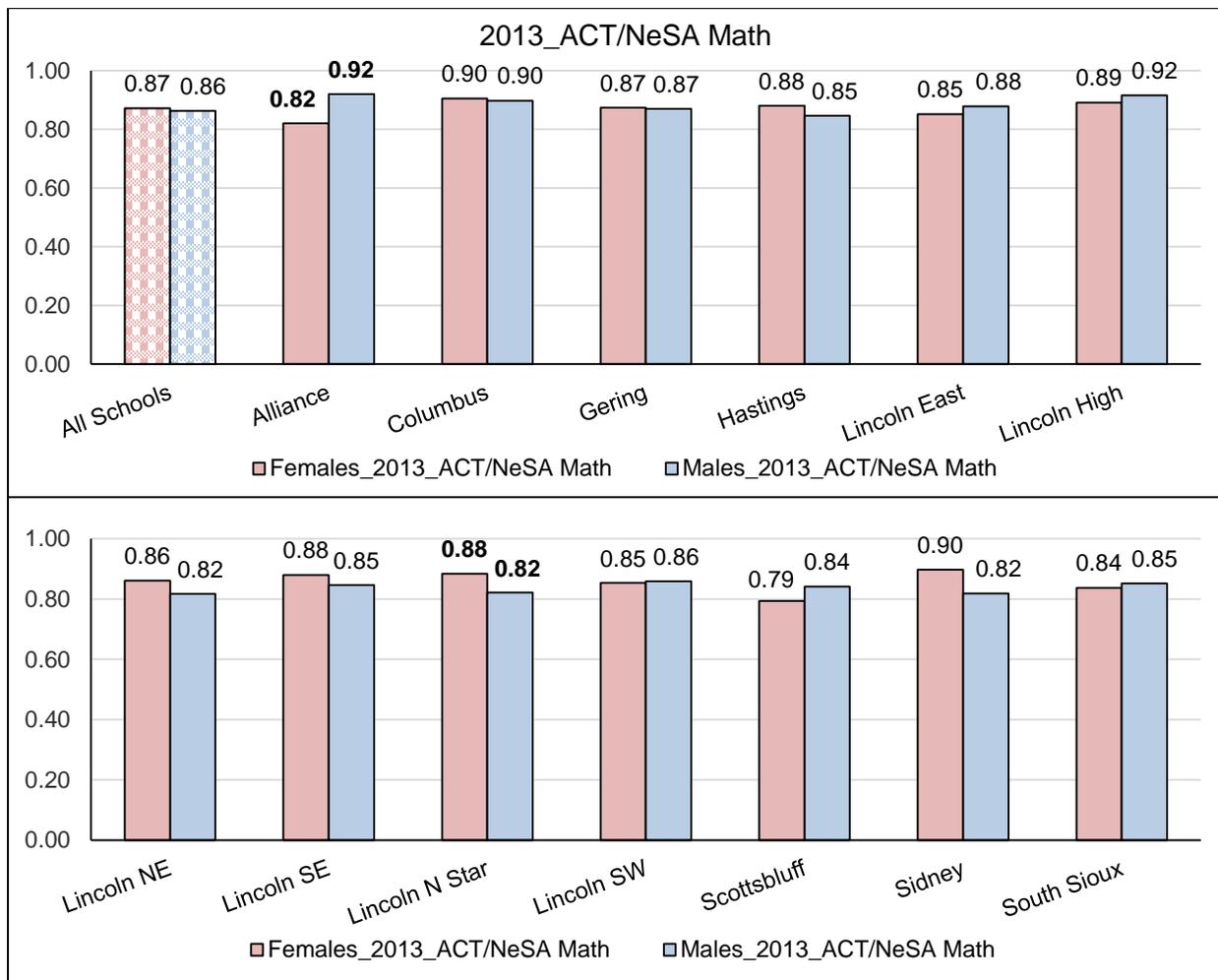


Figure 2.2c
Score Correlations of the ACT and NeSA Assessments in Mathematics
Taken in Spring 2014 for Females and Males

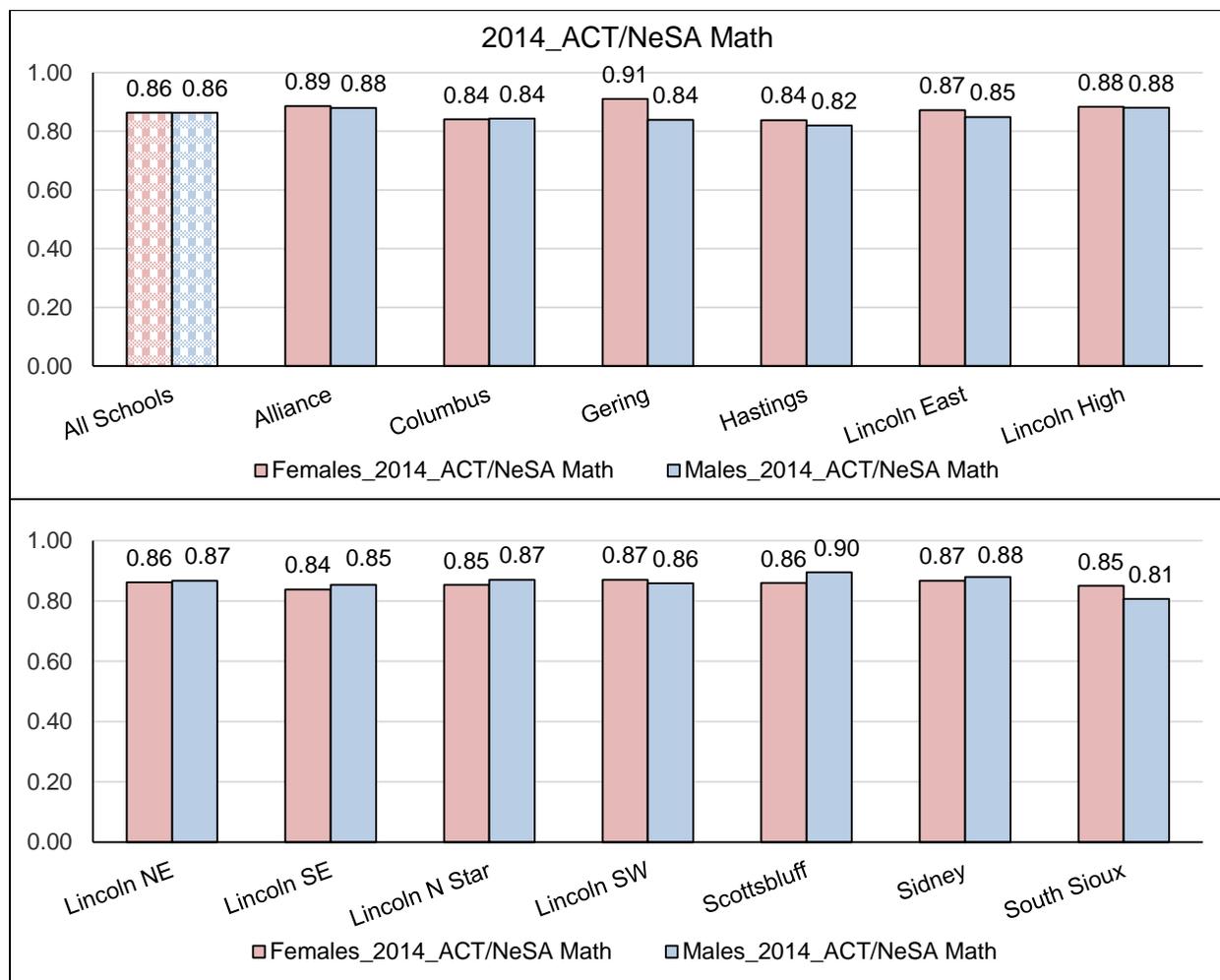
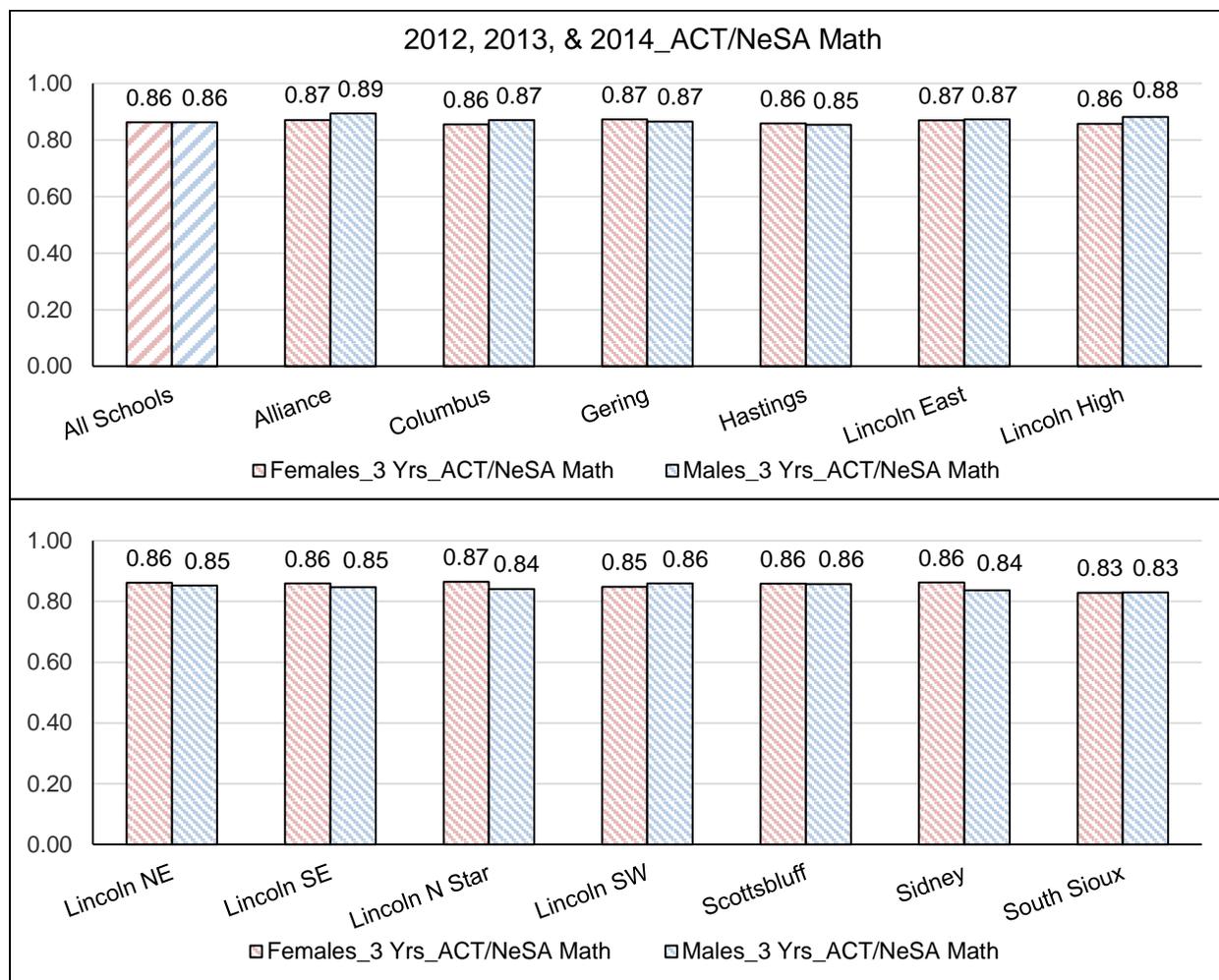


Figure 2.2d

**Score Correlations of the ACT and NeSA Assessments in Mathematics
Taken in Spring 2012, 2013, and 2014 for Females and Males
3 Years of Testing Combined**



Score Correlations for Females and Males: Science

Figure 2.3a, Figure 2.3b, and Figure 2.3c compare the correlation of scores on the ACT and NeSA tests in **science** for the females and males who took the two tests in 2012, 2013, and 2014, respectively. Figure 2.3d compares the score correlations for the male and female 11th graders who took the two tests in science with the three years of testing combined.

For all of the Pilot schools combined, the score correlations for females and males were almost equal in 2012 and 2014. In both cases, the correlation for females was 0.72, compared to 0.73 for males. In spring 2013, the 0.76 correlation for females was slightly higher than the 0.74 correlation for males. However, the 0.02 difference between these two correlations was not statistically significant. Furthermore, when the three years of testing data were combined into a single data set, the correlation coefficients were equal: 0.73 for females and 0.73 for males.

At the school level, there was a statistically significant difference between the score correlations for females and males at only one of the Pilot schools for each of the three years of testing. As highlighted in Figure 2.3a for spring 2012, the 0.70 correlation for females who were tested at Lincoln High School was significantly lower than the 0.79 correlation for their male classmates. Conversely, as highlighted in Figure 2.3b for spring 2013, the 0.78 correlation for the females tested at Lincoln Southeast was significantly higher than the 0.68 correlation for males. In 2014, as highlighted in Figure 2.3c, the 0.71 correlation for females was significantly higher than the 0.60 correlation for males tested at Lincoln Southwest.

With the three years of testing combined, there were statistically significant differences between the score correlations for females and males at only two of the Pilot schools. For the 11th graders tested at Alliance High School, the 0.67 correlation for females was significantly lower than the 0.79 correlation for males. Conversely, the 0.78 correlation for females tested at Hastings Senior High School was significantly higher than the 0.70 correlation for males tested at the same school.

Conclusions: As in the case of the score correlations for mathematics, the correlations of scores on the ACT and NeSA tests in **science** were not consistently higher or lower for females than they were for males, when these correlations were analyzed at the school level. Furthermore, when all Pilot schools were combined into one data set, there was no significant difference between the score correlations of the two science test for females and males in 2012, 2013, or 2014, or when the three years of testing were analyzed as a combined data set.

Figure 2.3a
Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2012 for Females and Males

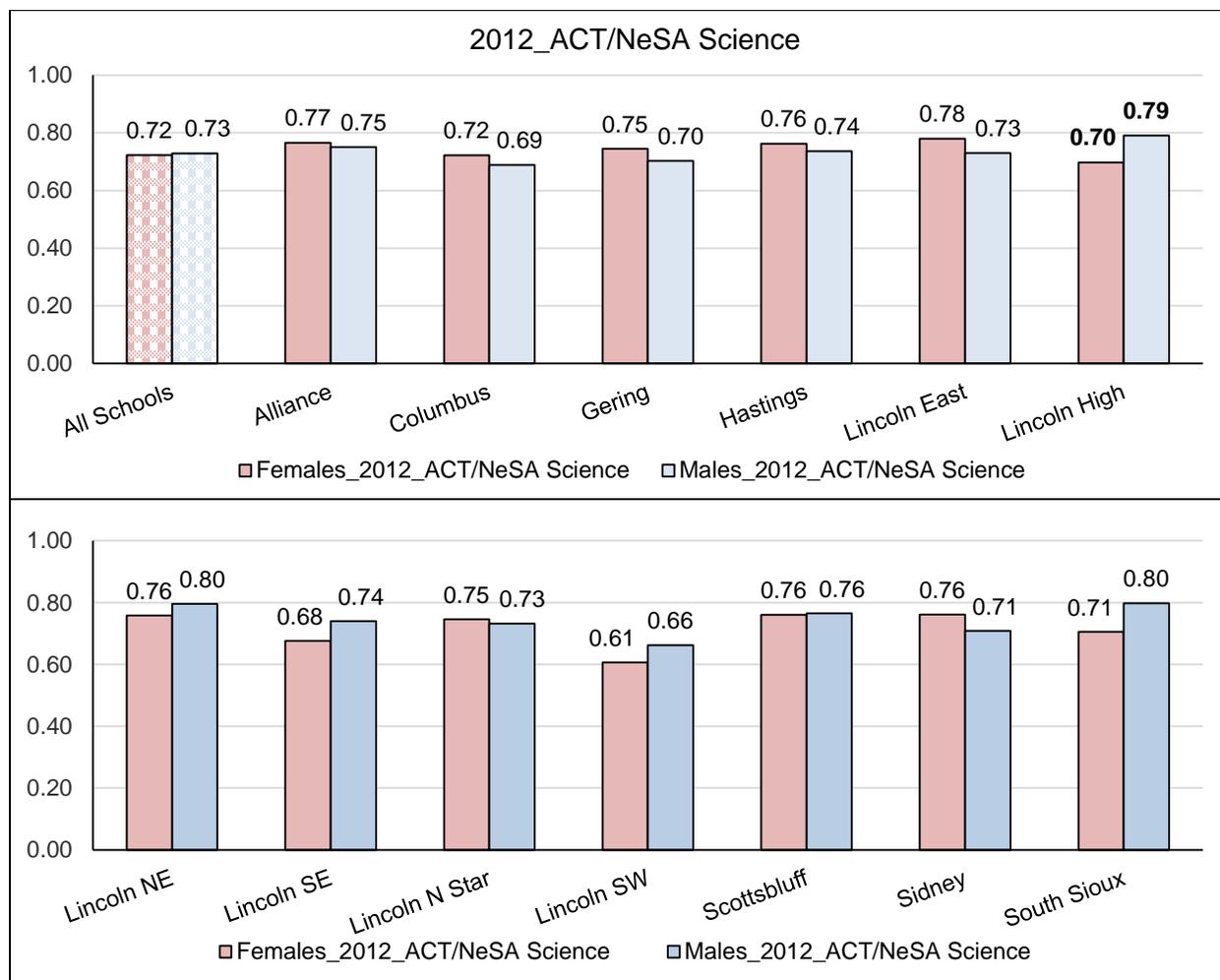


Figure 2.3b
Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2013 for Females and Males

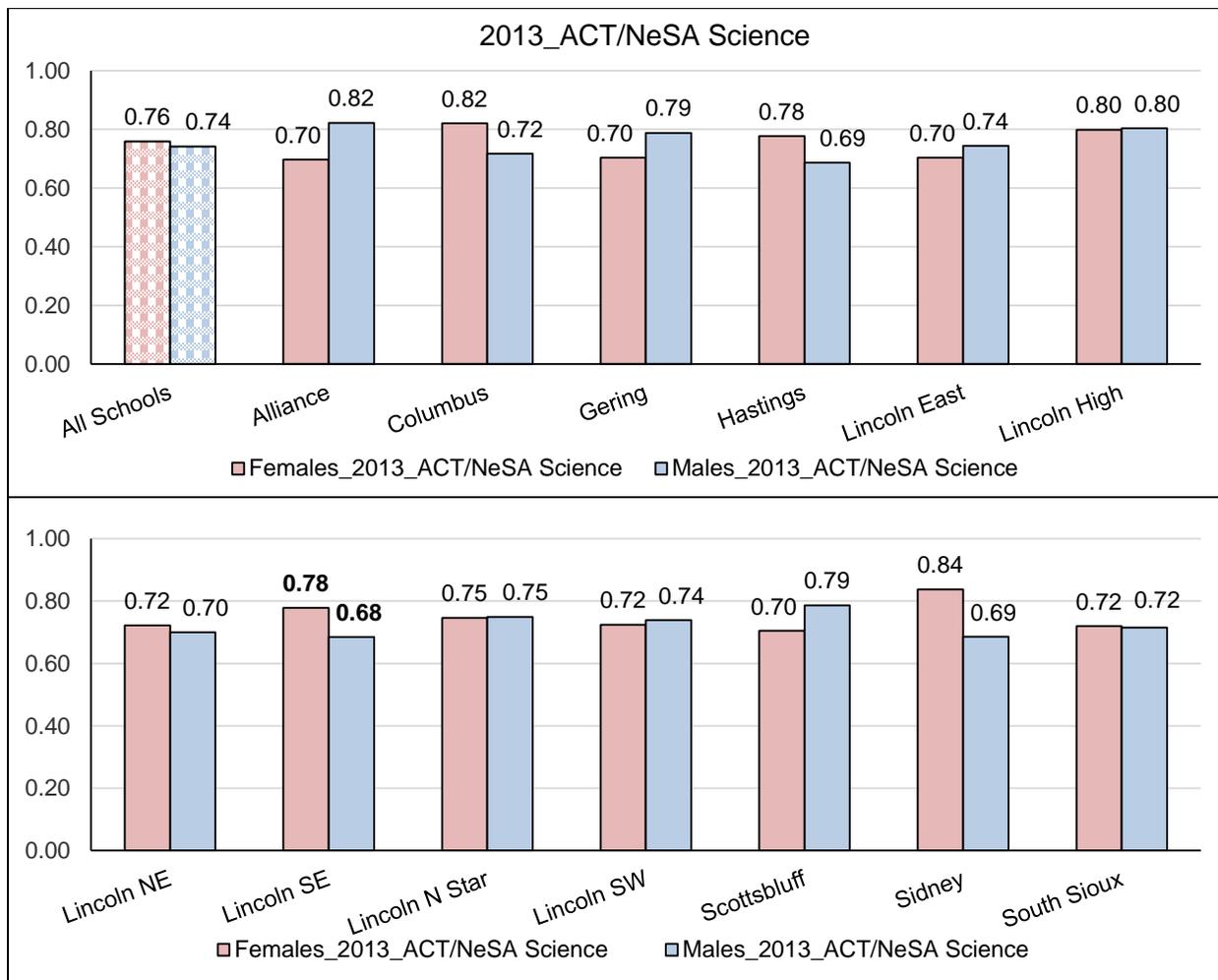


Figure 2.3c
Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2014 for Females and Males

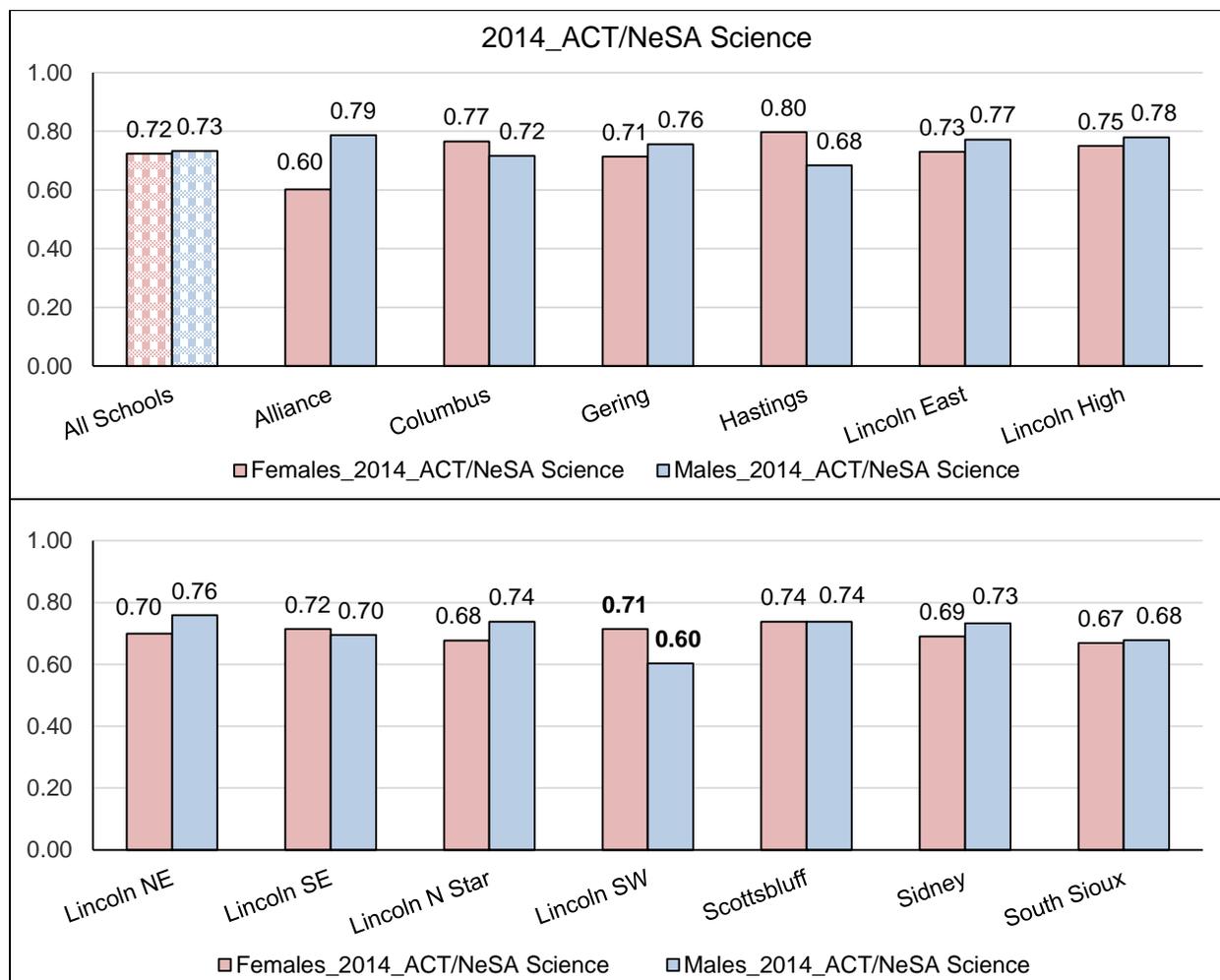
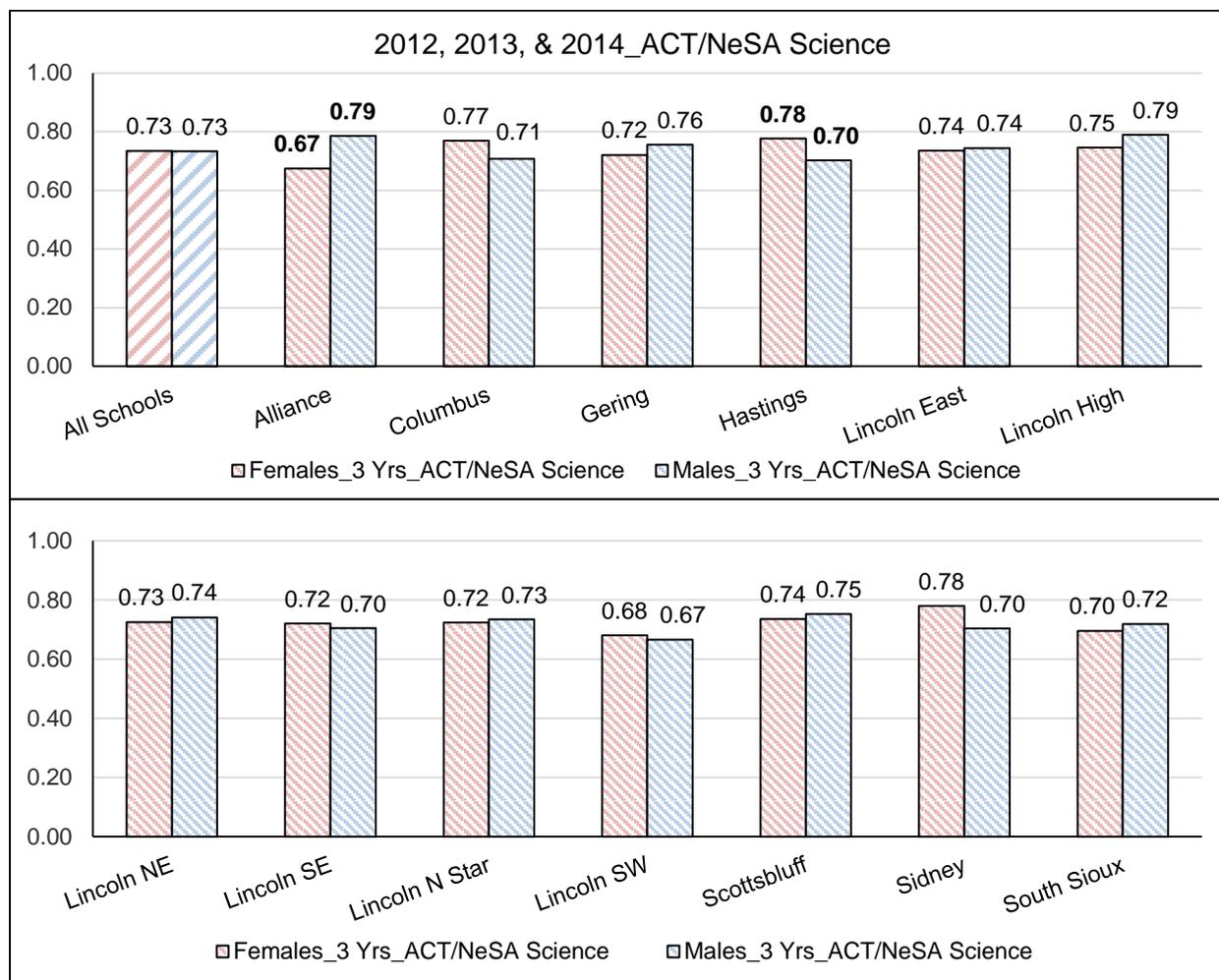


Figure 2.3d
Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2012, 2013, and 2014 for Females and Males
3 Years of Testing Combined



Stability of the Score Correlations Over Time

Statistical testing revealed relatively few significant increases or decreases in the score correlations for males and females over the course of the three years of testing. Consequently, it was permissible and meaningful to combine the three years of testing into one data set for the purposes of a summary analysis by gender.

For all of the Pilot schools combined, the correlation of scores on the ACT and NeSA tests in **science** for females significantly increased from 0.72 in spring 2012 to 0.76 in spring 2013 ($p = 0.020$) and then significantly decreased back to 0.72 in spring 2014 ($p = 0.024$). However, for all of the Pilot schools combined, there were no significant changes in the correlation of **science** scores for males between 2012 and 2013, between 2013 and 2014, or between 2012 and 2014. Furthermore, within these time periods, there were no significant changes in the score correlations for the tests in **reading** or **mathematics** for either females or males when all of the Pilot schools were combined into one data set.

At the school level, testing for significant increases or decreases in the correlations of the ACT and NeSA scores on the tests in **reading**, **mathematics**, and **science** for females and males between 2012 and 2013 and between 2013 and 2014 required 156 comparisons. An additional 78 comparisons were required to determine if there were significant two-year changes in the correlations for either males or females between 2013 and 2014.

Of the 234 comparisons, only 15 (6.4%) were statistically significant at the 0.05 level of probability. Furthermore, the 15 significant increases and decreases did not vary systematically by gender, school, or test content.

At the school level, there were only five statistically significant increases or decreases in the correlation of test scores for females between 2012 and 2013—two for the math tests taken at Lincoln High and Scottsbluff and three for the science tests taken at Lincoln High, Lincoln Southeast, and Lincoln Southwest. For males, there was only one significant decrease in the correlation of math scores at Lincoln Northeast.

Between 2013 and 2014, there were only two significant changes in the score correlations for females—an increase in the score correlation of the reading tests taken at Lincoln Southwest and a decrease in the correlation of the math tests taken at Columbus High School. For males, there was only one significant change between 2013 and 2014—a decrease in the correlation of the scores on the science tests taken at Lincoln Southwest.

Between 2012 and 2014, there was only one significant two-year change in the correlation coefficient calculated for females, namely, an increase in the correlation of the math tests taken at Lincoln High School. For males, there was a significant increase in the correlation of the ACT and NeSA scores on the reading tests taken at Sidney High School. In addition, there were significant decreases in the correlations of the math tests taken by males at Gering, Hastings, and Lincoln East, and also a decrease in the correlation of scores on the science tests taken by males at South Sioux.

Conclusions: For all of Pilot schools combined, the correlation of scores on the ACT and NeSA tests in science for females significantly increased between 2012 and 2013 and then significantly decreased in 2014. However, there were no other significant changes in the correlation of scores on the reading, math, or science tests for females or males when all of the Pilot schools were combined for analysis. Furthermore, there were only 15 significant one-year or two-year changes in the correlation coefficients calculated at the school level for females and males over the three years of testing—a small fraction of the total number of comparisons—and they were almost equally divided between the females and males tested at the Pilot schools. Consequently, it can be concluded that the score correlations for both females and males were relatively stable over the three years of testing, allowing the test data for all three years to be combined for summary analysis.

Overall Conclusions of the Analysis by Gender

As noted immediately above, the correlations of scores on the ACT and NeSA tests in **reading**, **mathematics**, and **science** were relatively stable over the three years of tests for both males and females. However, the analysis of correlation coefficients by gender indicated that the scores on the ACT and NeSA tests in **reading** were not equally correlated for females and males but more highly correlated for females than for their male classmates. In comparison, the correlation analysis provided no evidence that the score correlations for scores on the ACT and NeSA tests in **mathematics** and **science** were consistently higher or lower for females than they were for males tested at the Pilot schools.

See Table A2.1, Table A2.2, Table A2.3, and Table A2.4 in Appendix 2 for the critical value and 95% confidence interval associated with each of the score correlations calculated for females and males for the tests in reading, mathematics, and science for all of the Pilot schools combined and each of the 13 Pilot schools for each of the three years of testing and for the three years of testing combined.

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Part 3: Score Correlations for Non-Low-Income and Low-Income Students

This section presents the findings of the correlation analysis of the scores on the ACT and NeSA assessment tests in reading, mathematics, and science for low-income and non-low-income students within each school population, including the 13 Pilot schools combined. The purpose of this analysis was to determine if the scores on the ACT and NeSA tests in reading, mathematics, and science were equally correlated for low-income and non-low-income students.

Numbers of Students Tested

As shown in [Table 3.1](#), beginning on the next page, noticeably more 11th graders from non-low-income households, compared to low-income students, took the ACT and NeSA tests at the 13 Pilot schools in spring 2012, spring 2013, or spring 2014. In 2012, for example, 2,415 non-low-income students took the ACT and NeSA tests in reading, compared to 985 low-income students. Likewise, in 2014, 2,078 non-low-income students took the reading tests, compared to 1,420 low-income 11th graders.

For the 13 Pilot schools combined, low-income students accounted for 29% of the 11th graders who took the ACT and NeSA tests in reading, mathematics, and science in 2012 and 2013, while non-low-income students accounted for 71% of those tested. In 2014, however, there was a substantial increase in the number of students classified as low-income. As a result, low-income students accounted for 40.6% of the students tested in 2014, while non-low-income students represented 59.6%.

Although 29% or 41% of the total number of students tested were from low-income households, the percentages of low-income students varied within the Lincoln public school district from 11% at Lincoln East and Lincoln Southwest in 2012 to 62% at Lincoln High School in 2014. As a result, the samples of low-income students within the Lincoln public school district ranged from 35 to 198 students in 2012, from 38 to 159 students in 2013, and from 35 to 196 in 2014.

The numbers of low-income students tested at the three smallest Pilot high schools—Alliance, Gering, and Sidney—ranged from only 13 to 34 students in 2012, from 15 to 33 students in 2013, and from 25 to 58 students in 2014. In comparison, the numbers of non-low-income students tested at these three schools ranged from 54 to 84 students in 2012, 69 to 129 students in 2013, and from 50 to 89 students in 2014.

As the above ranges illustrate, the samples of non-low-income and low-income students varied substantially from one school to another. Furthermore, as shown in [Table 3.1](#) beginning on the next page, the numbers of students tested at each Pilot school varied at least slightly, and sometimes noticeably, from one year to the next. However, all of the samples were of sufficient size to calculate the correlation of scores on the ACT and NeSA tests, and all of the samples exceeded the 20-student minimum for comparing one correlation coefficient to another, except for the small samples of 13 or 15 low-income students tested at Sidney High School in 2012 and 2013.

Table 3.1 Number of Non-Low-Income and Low-Income Students Who Took the ACT and NeSA Tests in Reading, Math, and Science by Year and by School¹						
Part A: Number of Students Tested in Reading						
School Population	2012			2013		
	Non-Low-Income Students	Low-Income Students	Total Tested	Non-Low-Income Students	Low-Income Students	Total Tested
All Schools	2,415	985	3,400	2,400	994	3,394
Alliance	84	22	106	92	33	125
Columbus	171	75	246	153	64	217
Gering	82	34	116	128	26	154
Hastings	148	89	237	130	79	209
Lincoln East	287	35	322	306	38	344
Lincoln High	191	198	389	152	157	309
Lincoln NE	190	110	300	195	114	309
Lincoln SE	355	60	415	292	82	374
Lincoln N Star	209	151	360	267	136	403
Lincoln SW	370	45	415	380	57	437
Scottsbluff	139	43	182	110	63	173
Sidney	54	13	67	69	15	84
South Sioux	135	110	245	126	130	256
School Population	2014			3 Years Combined		
	Non-Low-Income Students	Low-Income Students	Total Tested	Non-Low-Income Students	Low-Income Students	Total Tested
All Schools	2,078	1,420	3,498	6,893	3,399	10,292
Alliance	70	44	114	246	99	345
Columbus	168	123	291	492	262	754
Gering	89	58	147	299	118	417
Hastings	99	125	224	377	293	670
Lincoln East	270	35	305	863	108	971
Lincoln High	118	196	314	461	551	1,012
Lincoln NE	165	148	313	550	372	922
Lincoln SE	335	158	493	982	300	1,282
Lincoln N Star	181	194	375	657	481	1,138
Lincoln SW	343	58	401	1,093	160	1,253
Scottsbluff	85	80	165	334	186	520
Sidney	50	26	76	173	54	227
South Sioux	105	175	280	366	415	781

¹Students are classified as non-low-income or low-income based on their participation (or not) in the free-or-reduced-price meal program.

Continued on the next page.

Table 3.1, Continued						
Number of Non-Low-Income and Low-Income Students Who Took the ACT and NeSA Tests in Reading, Math, and Science by Year and by School¹						
Part B: Number of Students Tested in Mathematics						
School Population	2012			2013		
	Non-Low-Income Students	Low-Income Students	Total Tested	Non-Low-Income Students	Low-Income Students	Total Tested
All Schools	2,417	984	3,401	2,402	997	3,399
Alliance	84	22	106	92	33	125
Columbus	171	76	247	152	64	216
Gering	82	34	116	129	26	155
Hastings	148	89	237	130	78	208
Lincoln East	287	35	322	306	38	344
Lincoln High	191	198	389	152	159	311
Lincoln NE	191	109	300	195	114	309
Lincoln SE	356	60	416	294	84	378
Lincoln N Star	209	151	360	267	136	403
Lincoln SW	370	45	415	380	57	437
Scottsbluff	139	43	182	110	63	173
Sidney	54	13	67	69	15	84
South Sioux	135	109	244	126	130	256
School Population	2014			3 Years Combined		
	Non-Low-Income Students	Low-Income Students	Total Tested	Non-Low-Income Students	Low-Income Students	Total Tested
All Schools	2,076	1,421	3,497	6,895	3,402	10,297
Alliance	70	44	114	246	99	345
Columbus	167	122	289	490	262	752
Gering	88	58	146	299	118	417
Hastings	99	125	224	377	292	669
Lincoln East	270	35	305	863	108	971
Lincoln High	118	196	314	461	553	1,014
Lincoln NE	165	150	315	551	373	924
Lincoln SE	335	158	493	985	302	1,287
Lincoln N Star	181	194	375	657	481	1,138
Lincoln SW	343	59	402	1,093	161	1,254
Scottsbluff	85	80	165	334	186	520
Sidney	50	25	75	173	53	226
South Sioux	105	175	280	366	414	780

¹Students are classified as non-low-income or low-income based on their participation (or not) in the free-or-reduced-price meal program.

Continued on the next page.

Table 3.1, Continued						
Number of Non-Low-Income and Low-Income Students Who Took the ACT and NeSA Tests in Reading, Math, and Science by Year and by School¹						
Part C: Number of Students Tested in Science						
School Population	2012			2013		
	Non-Low-Income Students	Low-Income Students	Total Tested	Non-Low-Income Students	Low-Income Students	Total Tested
All Schools	2,411	985	3,396	2,400	996	3,396
Alliance	84	23	107	92	33	125
Columbus	171	75	246	153	64	217
Gering	82	34	116	128	26	154
Hastings	148	89	237	130	79	209
Lincoln East	287	35	322	306	38	344
Lincoln High	191	198	389	152	159	311
Lincoln NE	189	109	298	195	114	309
Lincoln SE	353	61	414	292	82	374
Lincoln N Star	208	151	359	267	136	403
Lincoln SW	370	45	415	380	57	437
Scottsbluff	139	43	182	110	63	173
Sidney	54	13	67	69	15	84
South Sioux	135	109	244	126	130	256
School Population	2014			3 Years Combined		
	Non-Low-Income Students	Low-Income Students	Total Tested	Non-Low-Income Students	Low-Income Students	Total Tested
All Schools	2,076	1,417	3,493	6,887	3,395	10,282
Alliance	70	44	114	246	99	345
Columbus	168	123	291	492	262	754
Gering	88	58	146	298	118	416
Hastings	99	125	224	377	293	670
Lincoln East	270	35	305	863	108	971
Lincoln High	118	195	313	461	551	1,012
Lincoln NE	165	147	312	549	370	919
Lincoln SE	335	158	493	980	300	1,280
Lincoln N Star	181	194	375	656	481	1,137
Lincoln SW	342	58	400	1,092	160	1,252
Scottsbluff	85	80	165	334	186	520
Sidney	50	25	75	173	53	226
South Sioux	105	175	280	366	414	780

¹Students are classified as non-low-income or low-income based on their participation (or not) in the free-or-reduced-price meal program.

Score Correlations for Non-Low-Income and Low-Income Students: Reading

Beginning on page 65, [Figure 3.1a](#), [Figure 3.1b](#), and [Figure 3.1c](#) directly compare the correlations of the scores on the ACT and NeSA tests in **reading** for the non-low-income and low-income students who took the tests as 11th graders in 2012, 2013, and 2014, respectively. Following these three charts, [Figure 3.1d](#) compares the score correlations for the non-low-income and low-income 11th graders who took the two reading tests with the three years of testing combined. In each chart, the correlations calculated for the 13 Pilot schools combined (all schools) are shown along with the correlations calculated for each of the 13 schools. In each figure, pairs of correlations that were found to be significantly different at the 0.05 level of probability are highlighted in “bold” print.

For all of the Pilot schools combined, the correlations of scores on the ACT and NeSA tests in reading were significantly higher for non-low-income students than their low-income classmates in 2012, 2014, and for the three years of testing combined. As also summarized below, the 0.01 difference between the 0.76 correlation for non-low-income students and the 0.75 correlation for low-income students in 2013 was not statistically significant ($p = 0.732$). Together, these findings indicate that, for all of the Pilot schools combined, the ACT and NeSA tests in reading were more highly correlated for non-low-income students than for their low-income classmates in 2012 and 2014 but about equally correlated in 2013.

2012	Non-low-income	$r = 0.76$	Low-income	$r = 0.73$	$p = 0.037$
2013	Non-low-income	$r = 0.76$	Low-income	$r = 0.75$	$p = 0.732^*$
2014	Non-low-income	$r = 0.77$	Low-income	$r = 0.74$	$p = 0.018$
3 Years Combined	Non-low-income	$r = 0.77$	Low-income	$r = 0.74$	$p = 0.009$

*Not significant at the 0.05 level of probability

At the school level, the correlations of scores on the reading tests were higher for non-low-income students than for low-income students at nine of the Pilot schools in 2012, at only five schools in 2013, and at 11 of the 13 Pilot schools in 2014. With the three years of testing combined, the score correlations for non-low-income students were higher than those for low-income students at seven of the Pilot schools and equal for the two income groups at two schools. However, due to smaller samples at the school level, there were no statistically significant differences between the score correlations calculated for non-low-income and low-income students in 2012 or 2013, and there was a significant difference between the two income groups at only one school in 2014 and for the three years of testing combined.

As highlighted in [Figure 3.1c](#) for 2014, the 0.81 score correlation for non-low-income students was significantly higher than the 0.70 correlation for low-income students tested at Lincoln High School. When the three years of testing were combined, as illustrated in [Figure 3.1d](#), again, there was a significant difference evidenced for the students tested at Lincoln High School. In this case, the 0.79 correlation for non-low-income students was significantly higher than the 0.73 correlation for low-income students tested at Lincoln High.

Conclusions: For all of the Pilot schools combined, the correlation of scores on the ACT and NeSA tests in **reading** was almost equal for non-low-income and low-income students tested in 2013. However, the scores on the ACT and reading tests were not equally correlated for the non-low-income and low-income 11th graders tested in 2012, 2014, or when the three years of testing were combined into one data set. Instead, for these three time frames, the reading tests were more highly correlated for non-low-income students than for their low-income classmates.

At the school level, the score correlations for the reading tests tended to be higher for the non-low-income students than for the low-income students tested at nine or ten of the 13 Pilot schools in 2012 and 2014. However, there were no statistically significant differences between the score correlations for non-low-income and low-income students who were tested in 2012 or 2013, and there was only one school for which the correlation for non-low-income students was significantly higher than the correlation for low-income students in 2014 or when the three years of testing were combined.

Overall, the comparative analysis indicated that the scores on the ACT and NeSA tests in reading were not equally correlated for the non-low-income and low-income 11th graders tested at the Pilot schools in 2012, 2014, or when the three years of testing were combined. At the same time, the analysis also revealed that the correlations for non-low-income students were not consistently higher than the correlations for low-income students, especially in 2013, when the score correlations for the non-low-income and low-income students were almost equal for all of the Pilot schools combined.

Figure 3.1a

Score Correlations of the ACT and NeSA Assessments in Reading Taken in Spring 2012 for Non-Low-Income and Low-Income Students

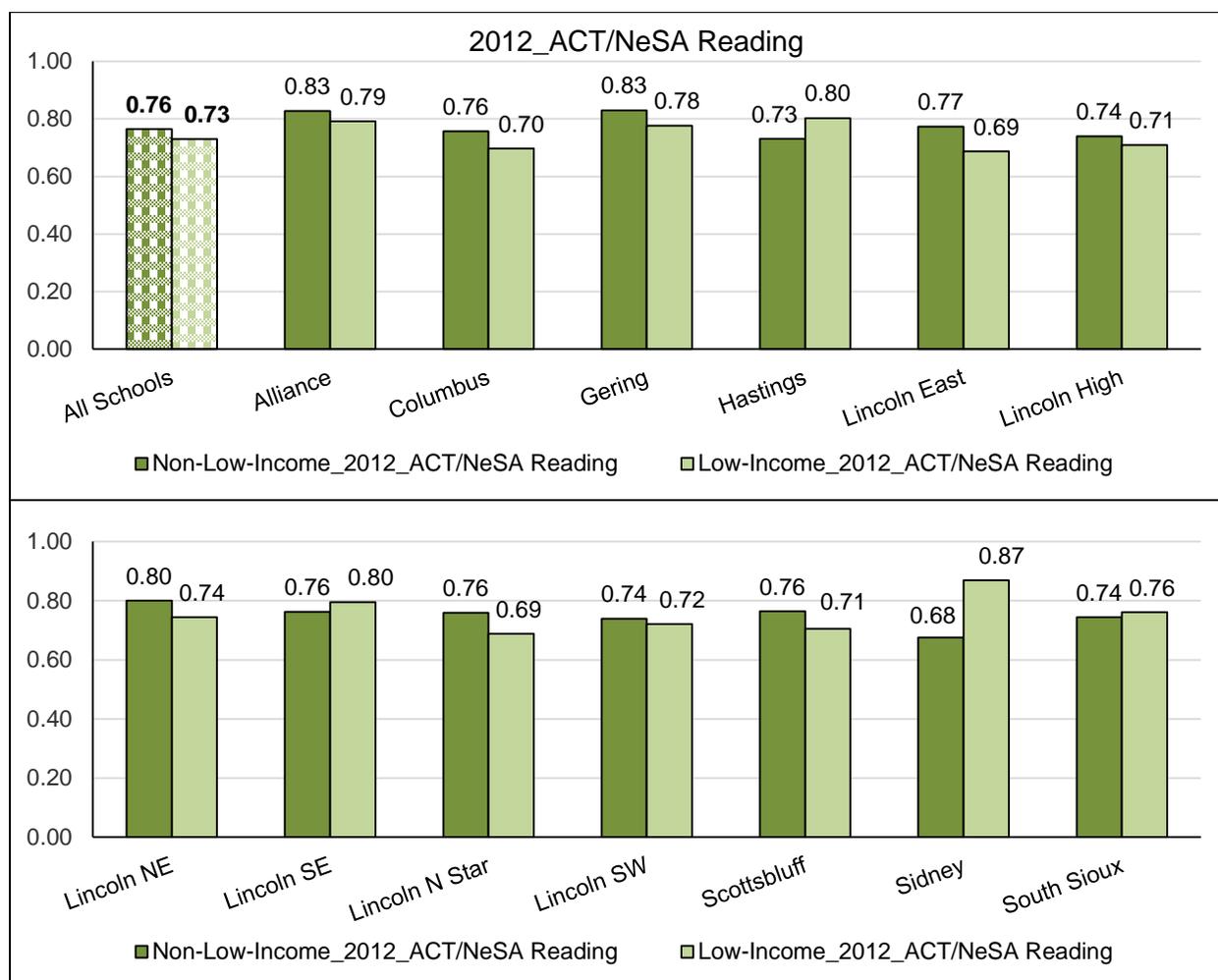


Figure 3.1b

Score Correlations of the ACT and NeSA Assessments in Reading Taken in Spring 2013 for Non-Low-Income and Low-Income Students

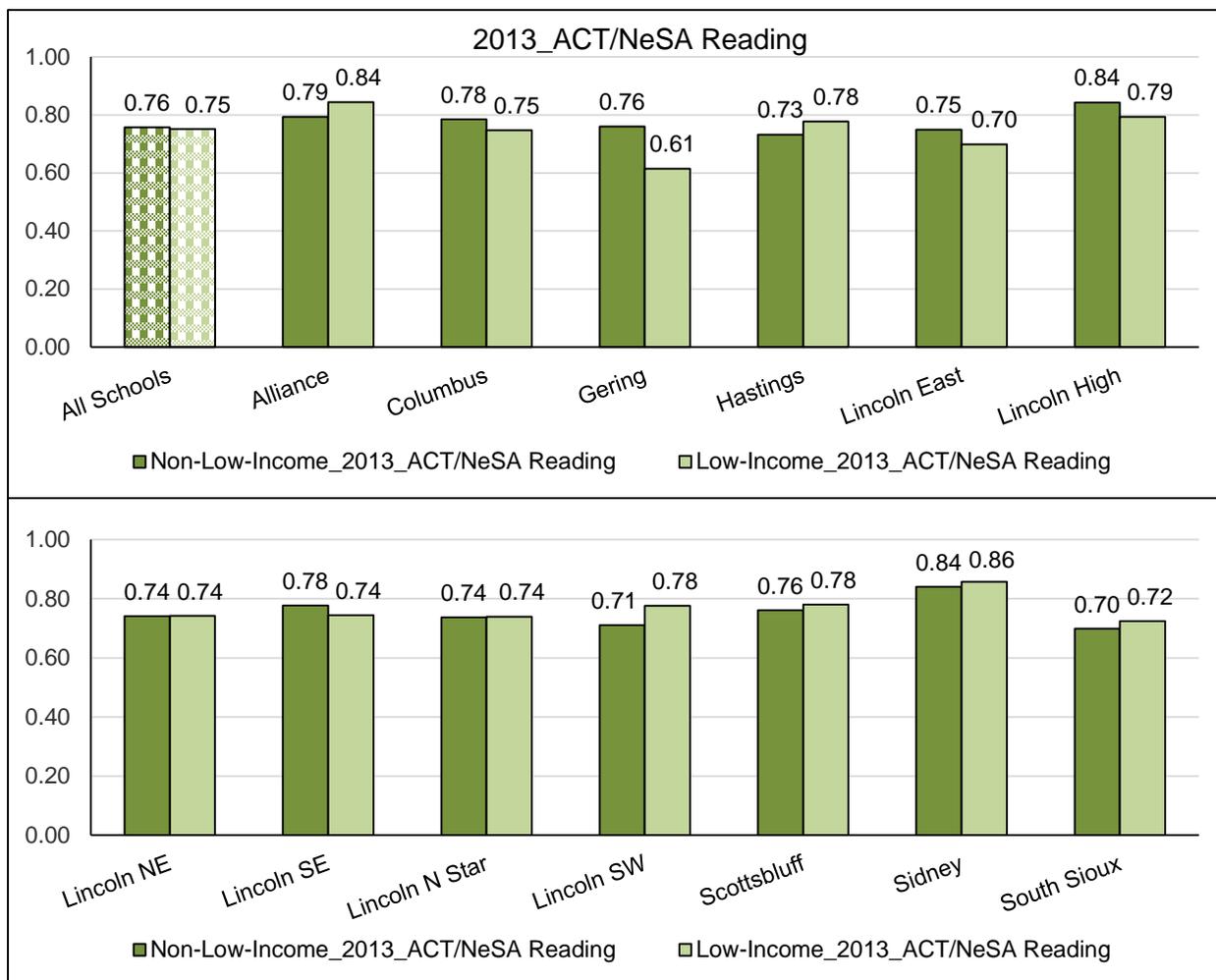


Figure 3.1c

Score Correlations of the ACT and NeSA Assessments in Reading Taken in Spring 2014 for Non-Low-Income and Low-Income Students

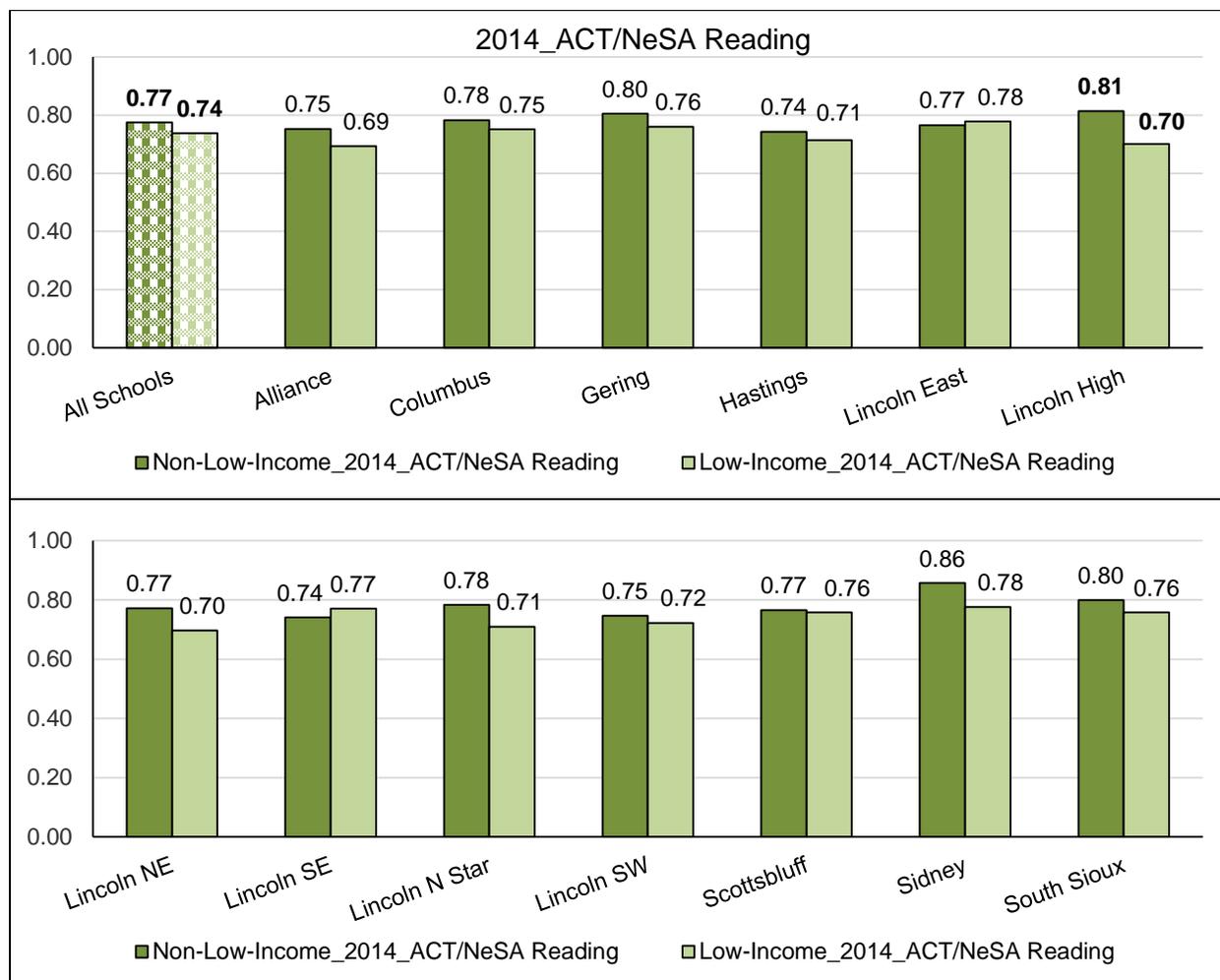
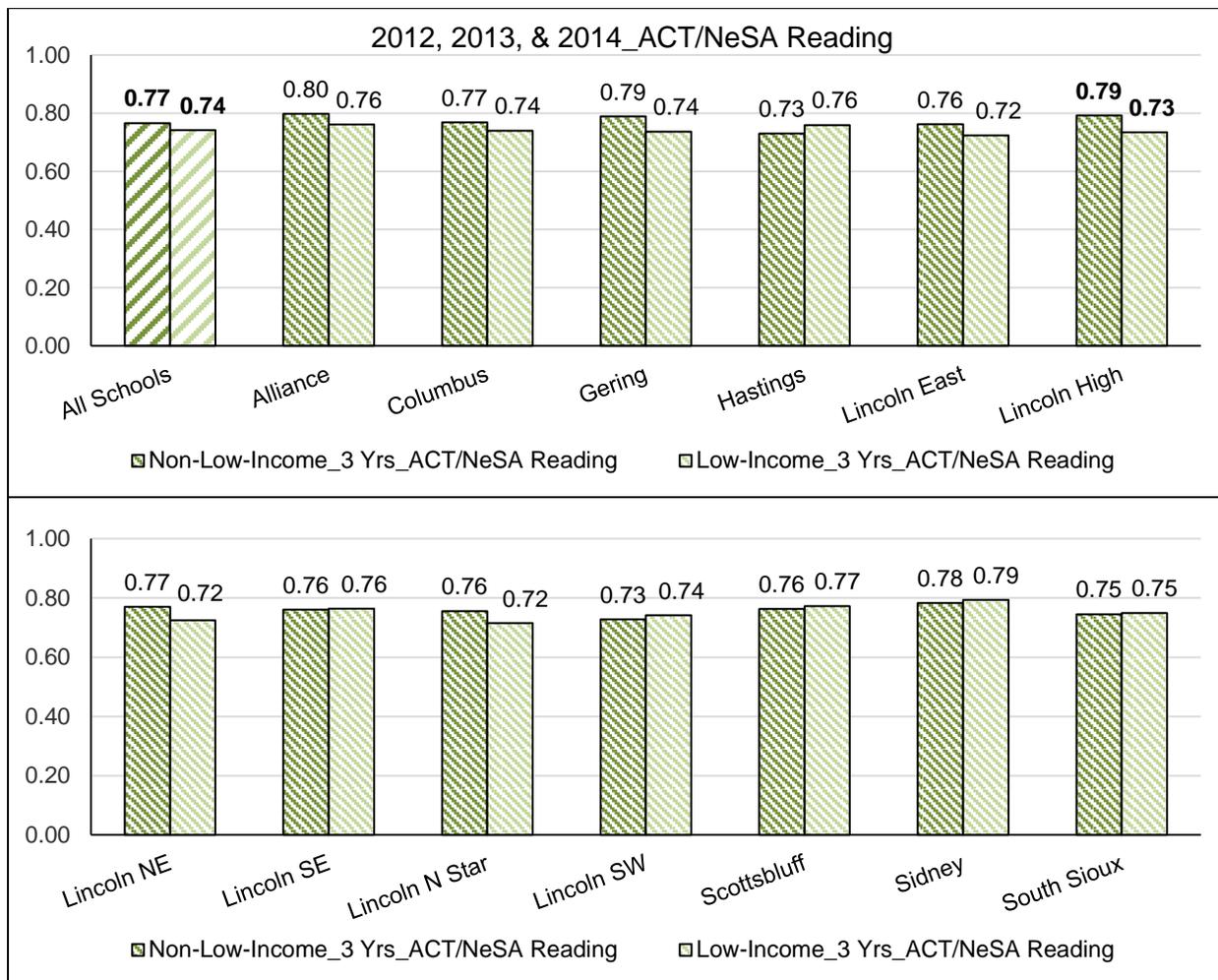


Figure 3.1d

Score Correlations of the ACT and NeSA Assessments in Reading Taken in Spring 2012, 2013, and 2014 for Non-Low-Income and Low-Income Students



Score Correlations for Non-Low-Income and Low-Income Students: Mathematics

Figure 3.2a, Figure 3.2b, and Figure 3.2c on the following three pages directly compare the correlations of scores on the ACT and NeSA tests in **mathematics** for the non-low-income and low-income 11th graders who took the two tests in 2012, 2013, and 2014, respectively. Figure 3.2d compares the score correlations for the non-low-income and low-income students who took the two tests in mathematics with the three years of testing combined.

For all of the Pilot schools combined, the correlations of scores on the ACT and NeSA tests in mathematics were significantly higher for non-low-income students than their low-income classmates in 2012, 2013, 2014, and for the three years of testing combined. In each case, as shown below, the correlation of scores on the math tests was 0.86 for the non-low-income students. In comparison, the correlations for the low-income students were significantly lower, ranging from 0.79 to 0.82. These findings indicate that, for all of the Pilot schools combined, the ACT and NeSA tests in mathematics were more highly correlated for non-low-income students than for their low-income classmates over the course of the ACT Pilot Project.

2012	Non-low-income	r = 0.86	Low-income	r = 0.79	p = 0.000
2013	Non-low-income	r = 0.86	Low-income	r = 0.82	p = 0.000
2014	Non-low-income	r = 0.86	Low-income	r = 0.82	p = 0.000
3 Years Combined	Non-low-income	r = 0.86	Low-income	r = 0.81	p = 0.000

At the school level, the correlations of scores on the mathematics tests were higher for non-low-income students than for low-income students at 11 of the Pilot schools in 2012, at nine schools in 2013, and at 10 of the 13 Pilot schools in 2014. With the three years of testing combined, the score correlations for non-low-income students were higher than those for low-income students at 11 of the Pilot schools. However, due to smaller samples at the school level, there were only two or three schools where there were significant differences between the math score correlations for the non-low-income and low-income students in 2012, 2013, and 2014. In each case, the correlation of scores for the non-low-income students was significantly higher than the correlation for low-income students.

In 2012, as highlighted in Figure 3.2a on the next page, the correlations for non-low-income students were significantly higher than the correlations for low-income students who took the ACT and NeSA tests at Columbus, Lincoln Northeast, and Lincoln Southeast. As highlighted in Figure 3.2b for 2013, the correlations for the non-low-income students tested at Alliance, Lincoln East, and Lincoln Northeast were significantly higher than the correlations for the low-income students tested at these three schools.

As highlighted in Figure 3.2c, the score correlations for non-low-income students were significantly higher than for low-income students at only two schools in 2014, namely, Hastings Senior High School and Lincoln Northeast. However, when the three years of testing were combined with resulting larger samples, as shown in Figure 3.1d, non-low-income students had significantly higher correlations of scores on the tests in

mathematics than low-income students at six of the Pilot schools: Hastings, Lincoln East, Lincoln Northeast, Lincoln North Star, Lincoln Southwest, and South Sioux. It also is interesting to note that Lincoln Northeast was the only school with score correlations for non-low-income students that were significantly higher than the correlations for low-income students for each of the three years of testing and for the three years of testing combined.

Conclusions: The correlation analysis provided substantial evidence that, for all of the Pilot schools combined, the correlations of scores on the ACT and NeSA tests in **mathematics** were more highly correlated for non-low-income students than for low-income students. This analysis also indicated that the correlations for non-low-income students were frequently, and sometimes significantly, higher than the correlations for low-income students at the school level.

Figure 3.2a

Score Correlations of the ACT and NeSA Assessments in Mathematics Taken in Spring 2012 for Non-Low-Income and Low-Income Students

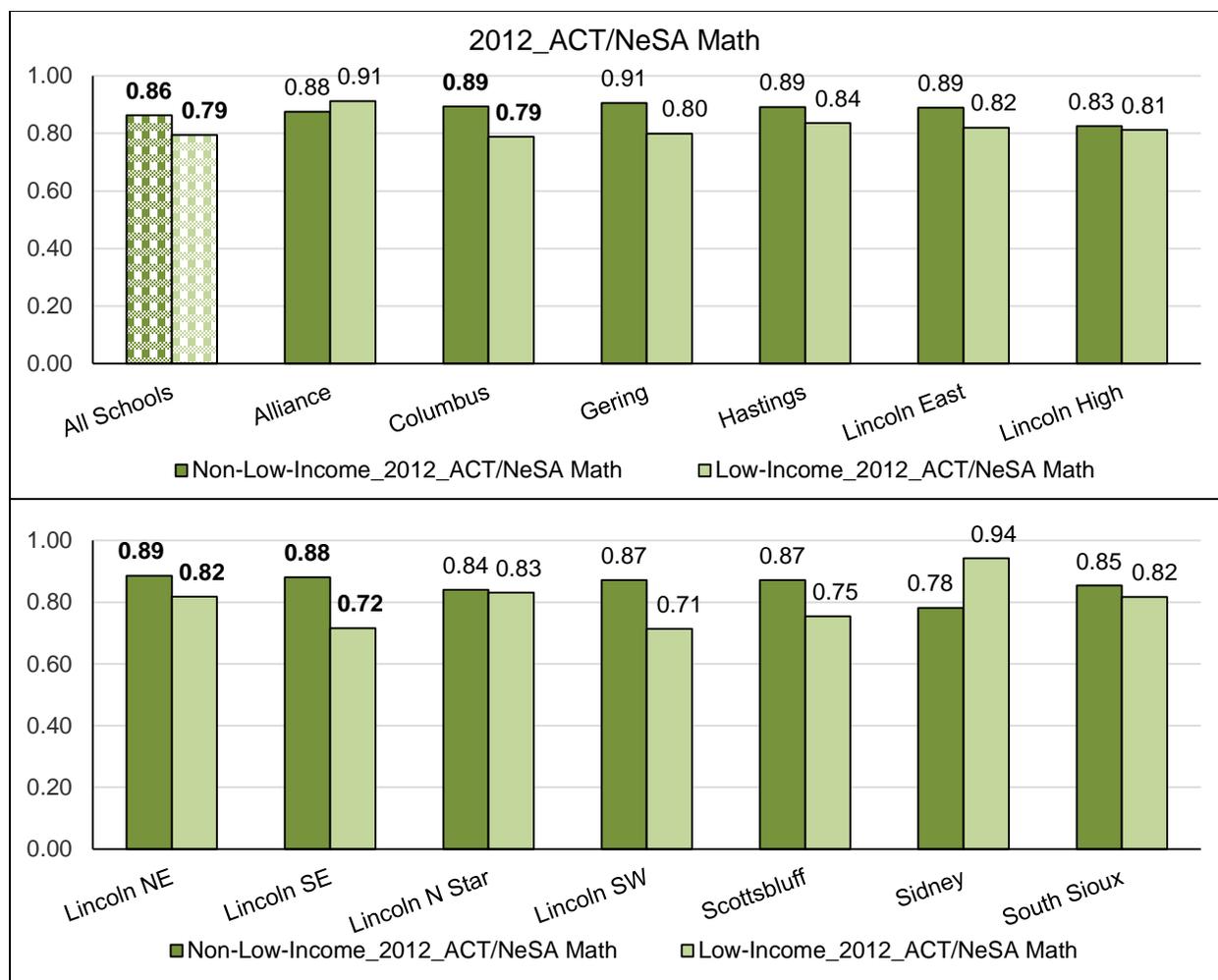


Figure 3.2b

Score Correlations of the ACT and NeSA Assessments in Mathematics Taken in Spring 2013 for Non-Low-Income and Low-Income Students

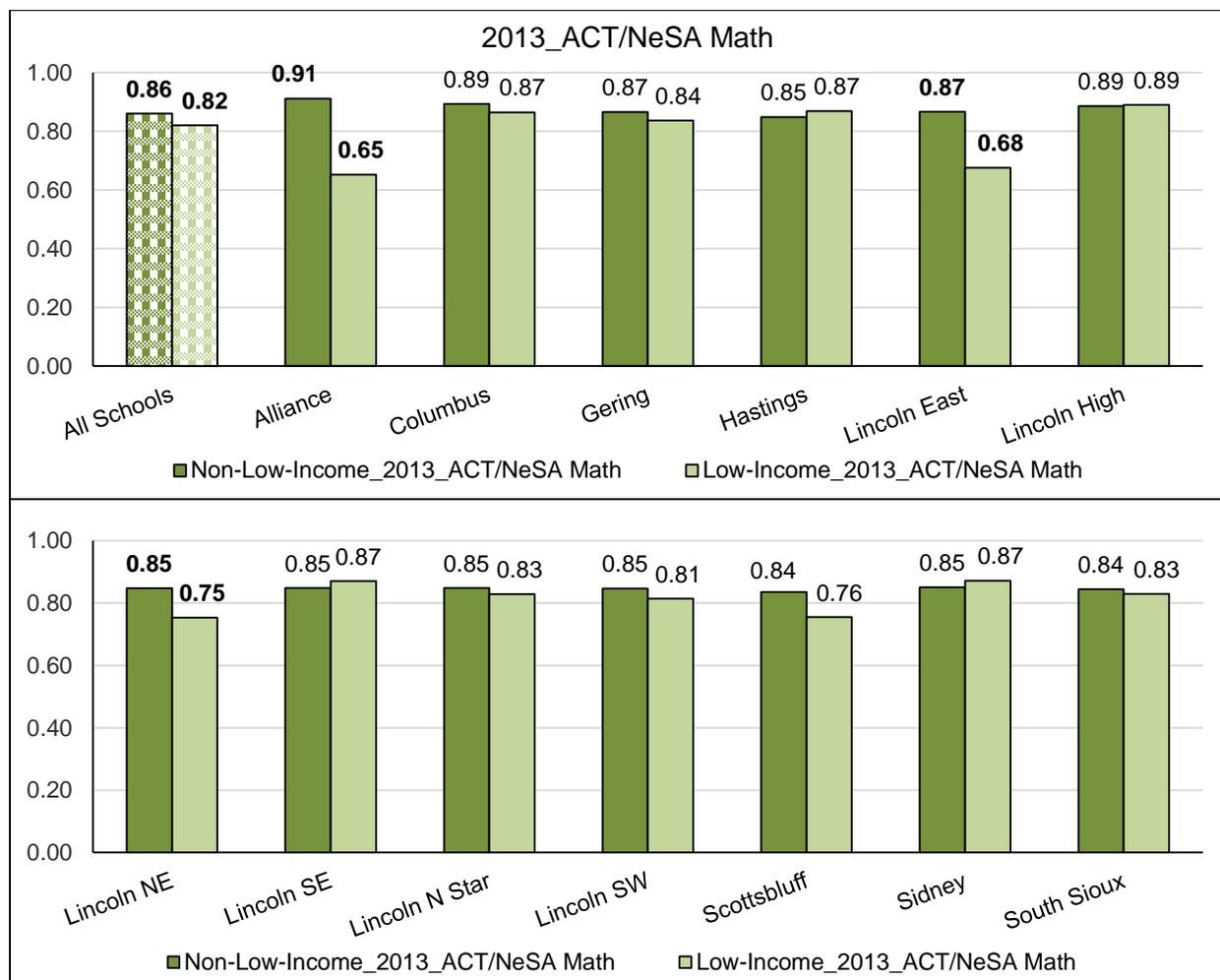


Figure 3.2c

Score Correlations of the ACT and NeSA Assessments in Mathematics Taken in Spring 2014 for Non-Low-Income and Low-Income Students

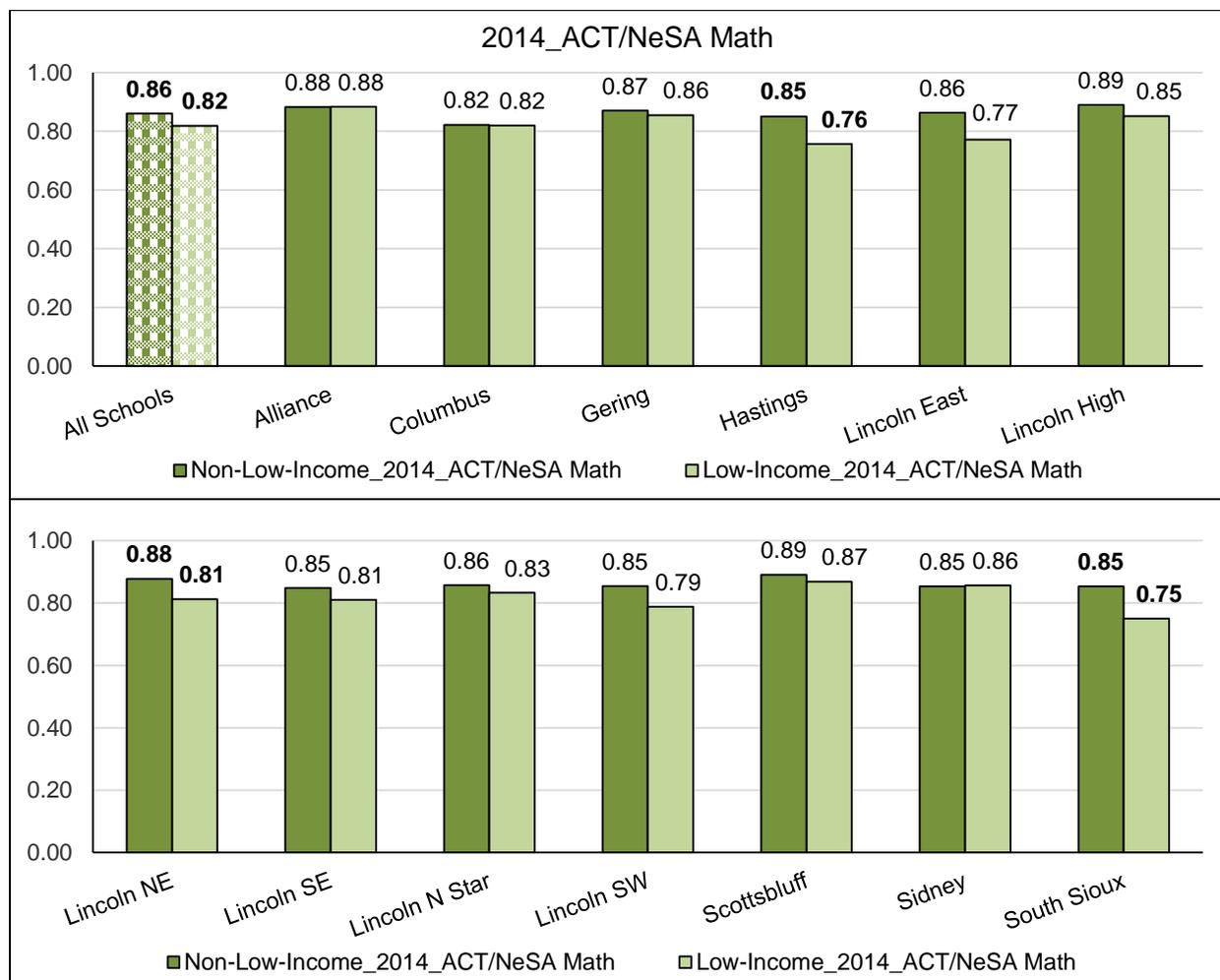
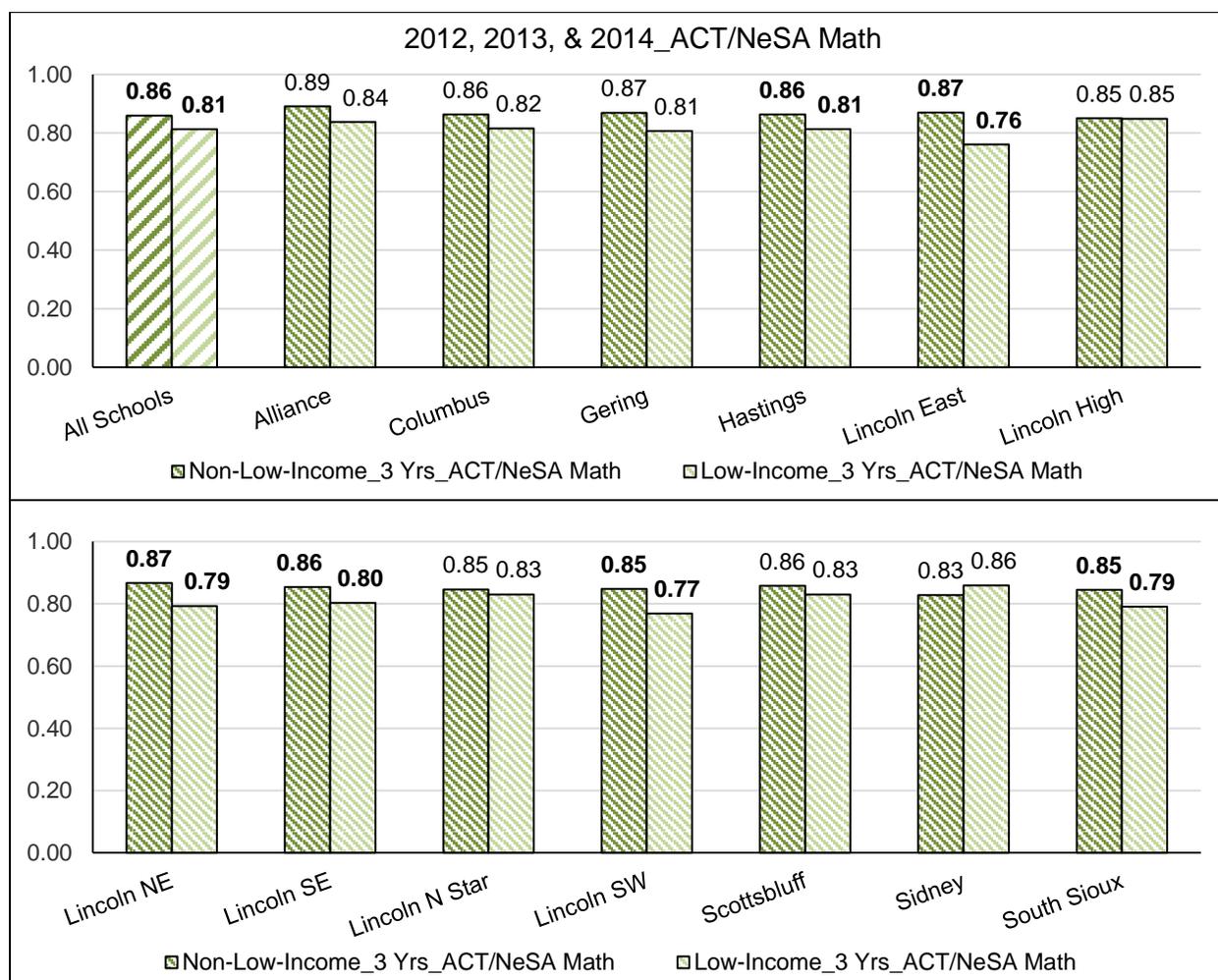


Figure 3.2d

Score Correlations of the ACT and NeSA Assessments in Mathematics Taken in Spring 2012, 2013, and 2014 for Non-Low-Income and Low-Income Students



Score Correlations for Non-Low-Income and Low-Income Students: Science

Beginning on page 76, [Figure 3.3a](#), [Figure 3.3b](#), and [Figure 3.3c](#) directly compare the correlations of the scores on the ACT and NeSA tests in **science** for the non-low-income and low-income students who took the tests as 11th graders in 2012, 2013, and 2014, respectively. Following these three charts, [Figure 3.3d](#) compares the score correlations for the non-low-income and low-income 11th graders who took the two science tests with the three years of testing combined.

For all of the Pilot schools combined, the correlations of scores on the ACT and NeSA tests in science were significantly higher for non-low-income students than for their low-income classmates in 2012, 2013, and for the three years of testing combined. As also summarized below, the 0.02 difference between the 0.70 correlation for non-low-income students and the 0.68 correlation for low-income students in 2014 was not statistically significant ($p = 0.278$). These findings clearly indicate that, for all of the Pilot schools combined, the ACT and NeSA tests in science were more highly correlated for non-low-income students than for their low-income classmates in 2012 and 2013. However, based on the data analyzed, the correlation of math scores for non-low-income students was only slightly higher, rather than significantly higher, than the score correlation for low-income students in 2014.

2012	Non-low-income	$r = 0.71$	Low-income	$r = 0.64$	$p = 0.002$
2013	Non-low-income	$r = 0.73$	Low-income	$r = 0.67$	$p = 0.001$
2014	Non-low-income	$r = 0.70$	Low-income	$r = 0.68$	$p = 0.278^*$
3 Years Combined	Non-low-income	$r = 0.72$	Low-income	$r = 0.67$	$p = 0.000$

*Not significant at the 0.05 level of probability

At the school level, the correlations of scores on the science tests were higher for non-low-income students than for low-income students at nine of the 13 Pilot schools in 2012, at 11 schools in 2013, and at seven schools in 2014. With the three years of testing combined, the score correlations for non-low-income students were higher than those for low-income students at 10 of the Pilot schools. However, due to smaller samples at the school level, there were no statistically significant differences between the score correlations calculated for non-low-income and low-income students in 2013, only one significant difference between the two income groups in 2014, and only two significant differences when the three years of testing were combined.

As highlighted in [Figure 3.3a](#) for 2012, the 0.74 correlation for non-low-income students was significantly higher than the unusually low correlation of 0.39 for low-income students at Columbus High School. With the three years of testing combined, as shown in [Figure 3.3d](#), the 0.73 correlation for non-low-income students tested at Columbus High School was significantly higher than the 0.64 correlation for low-income students tested at the same school.

As highlighted in [Figure 3.3c](#) for 2014, the 0.75 score correlation for non-low-income students was significantly higher than the 0.63 correlation for low-income students tested at Lincoln Northeast. When the three years of testing were combined,

as illustrated in [Figure 3.3d](#), again, there was a significant difference evidenced for the students tested at Lincoln Northeast. In this case, the 0.74 correlation for non-low-income students was significantly higher than the 0.66 correlation for low-income students tested at Lincoln Northeast.

Conclusions: For all of the Pilot schools combined, the correlations of scores on the ACT and NeSA tests in **science** were not significantly different for non-low-income and low-income students tested in 2014. At the school level, there were no statistically significant differences between the score correlations for non-low-income and low-income students who were tested in 2013, and there were only two significant differences at two schools in 2012 or 2014 and when the three years of testing were combined in each case.

However, for all of the Pilot schools combined, the scores on the ACT and NeSA tests in science were not equally correlated for the non-low-income and low-income 11th graders tested in 2012, 2013, or when the three years of testing were combined into one data set. Instead, for these three time frames, the science tests were more highly correlated for non-low-income students than for their low-income classmates. Also, at the school level, the score correlations for the science tests tended to be higher for the non-low-income students than the low-income students tested at the majority of the 13 Pilot schools.

In general, these findings indicate that the ACT and NeSA tests in science were not equally correlated for the non-low-income and low-income 11th graders tested at the Pilot schools. At the same time, the correlation analysis also revealed that the score correlations for non-low-income students were not consistently or always significantly higher than the correlations for low-income students.

Figure 3.3a

**Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2012 for Non-Low-Income and Low-Income Students**

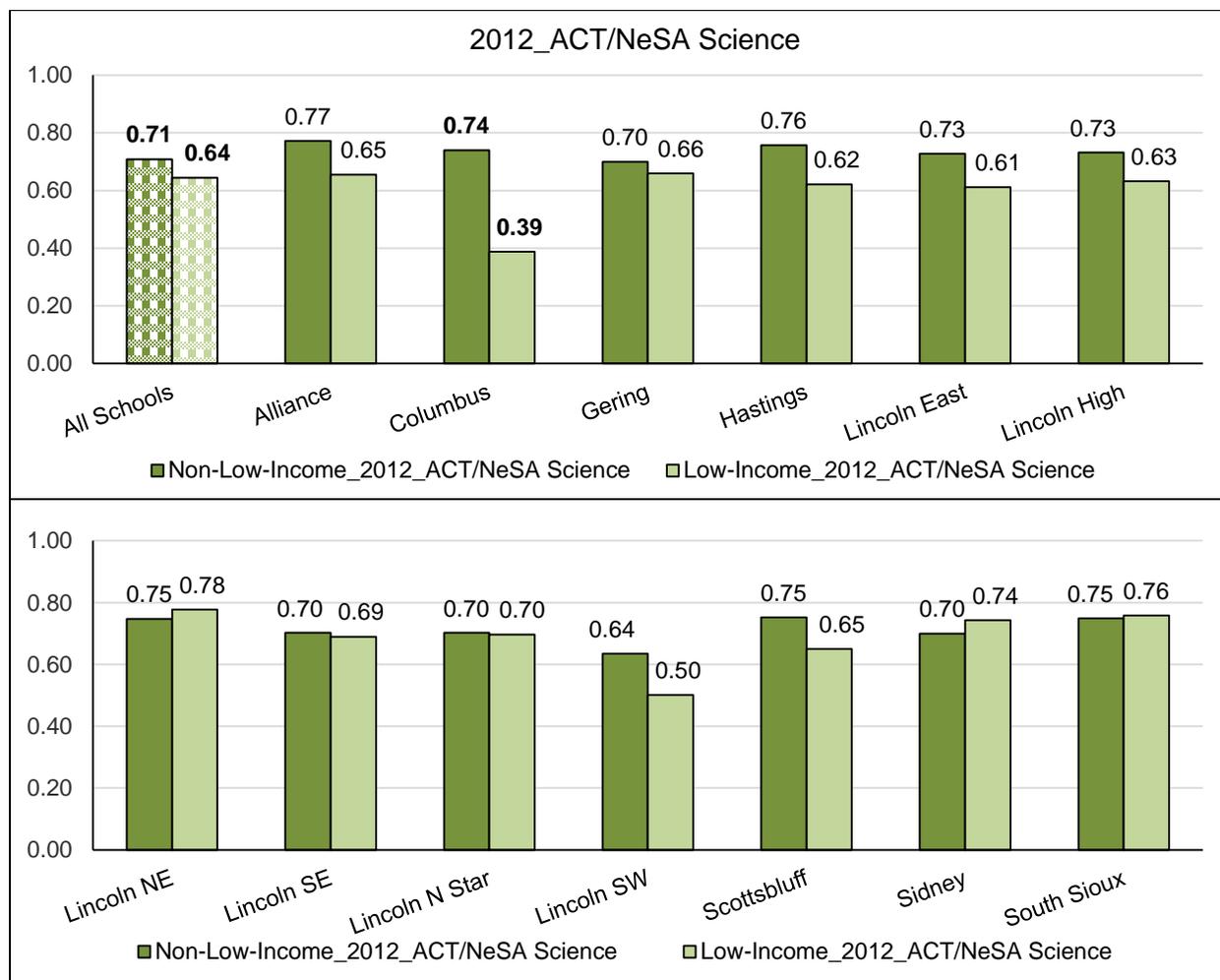


Figure 3.3b

Score Correlations of the ACT and NeSA Assessments in Science Taken in Spring 2013 for Non-Low-Income and Low-Income Students

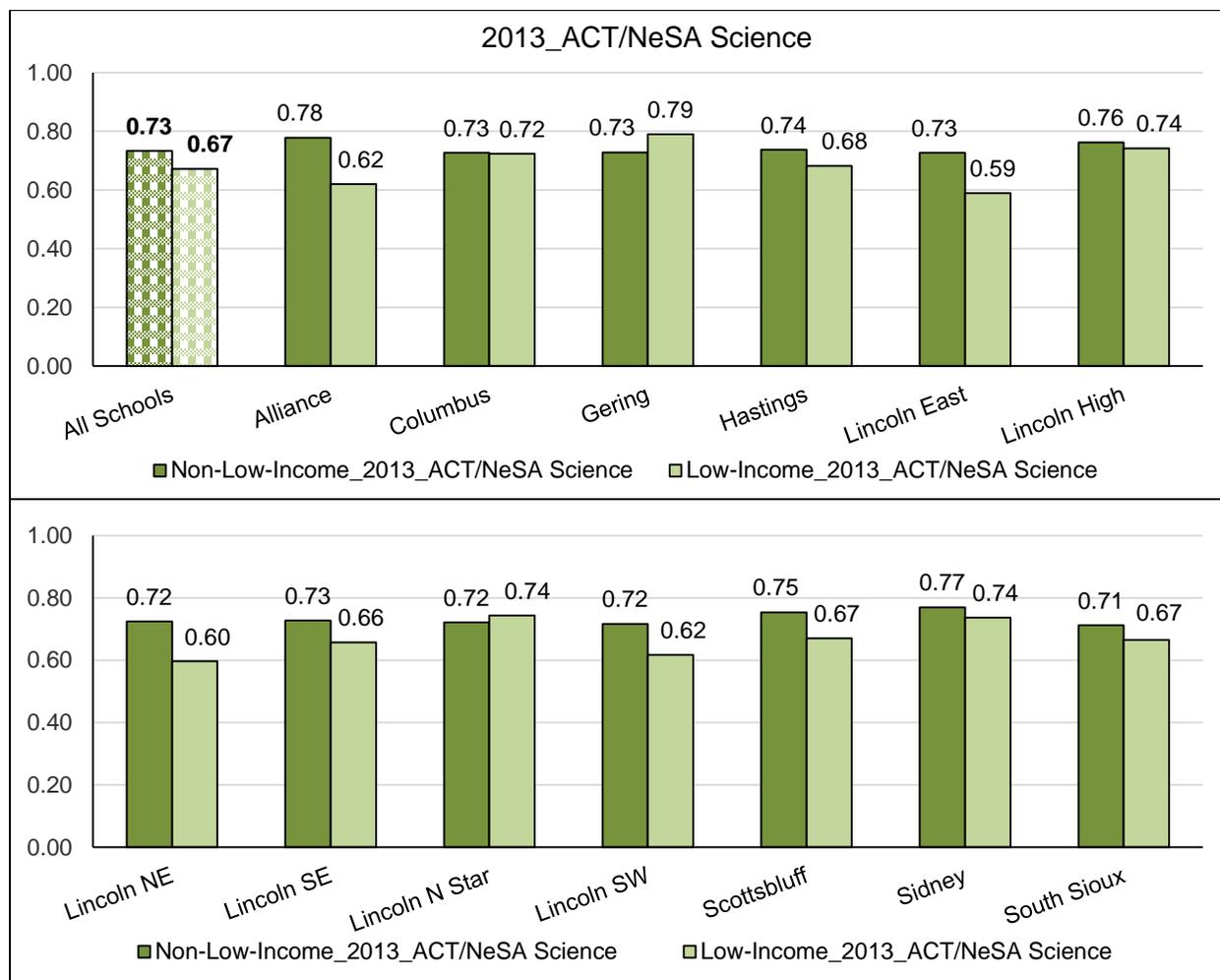


Figure 3.3c

**Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2014 for Non-Low-Income and Low-Income Students**

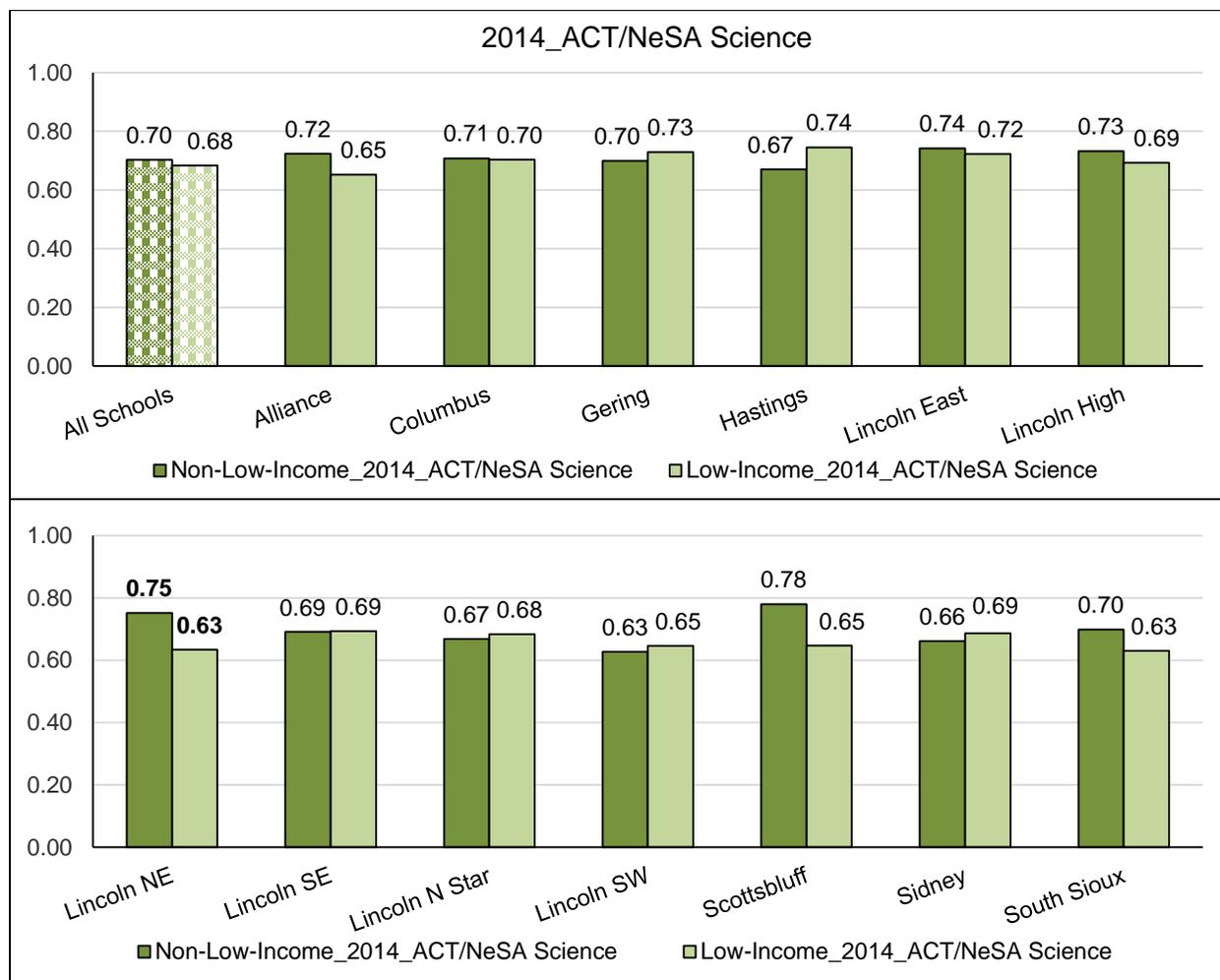
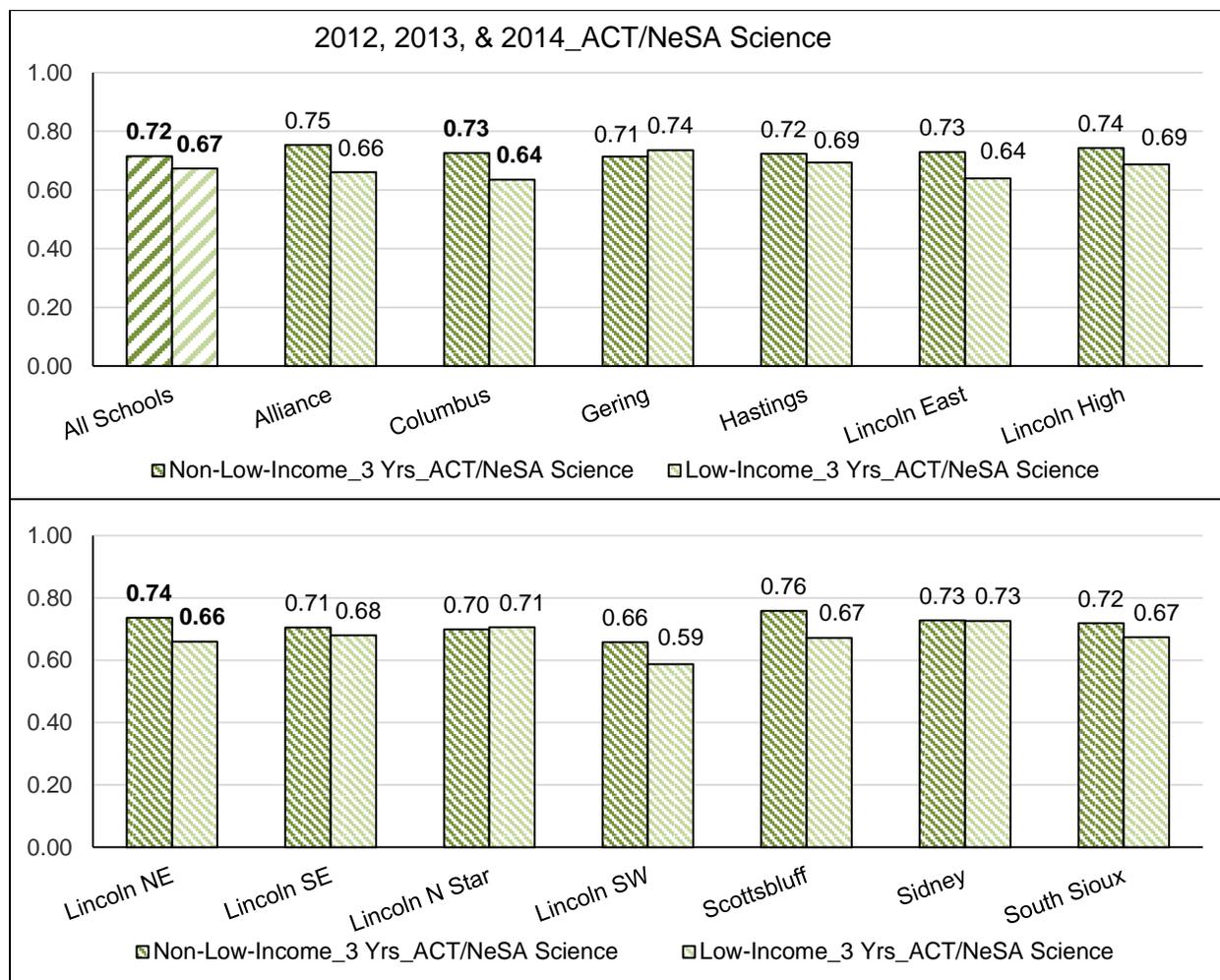


Figure 3.3d

Score Correlations of the ACT and NeSA Assessments in Science Taken in Spring 2012, 2013, and 2014 for Non-Low-Income and Low-Income Students



Stability of the Score Correlations Over Time

Statistical testing revealed relatively few significant increases or decreases in the score correlations for low-income students and non-low-income students over the course of the three years of testing. Based on this general finding, it was permissible and meaningful to combine the three years of test data into one data set for the purpose of a summary analysis by income.

For all of the Pilot schools combined, the correlation of scores on the ACT and NeSA tests in **science** for non-low-income students significantly decreased from 0.73 in spring 2013 to 0.70 in spring 2014 ($p = 0.036$). However, for all of the Pilot schools combined, there were no other significant changes in the correlation of **science** scores for non-low-income students or low-income students between 2012 and 2013, between 2013 and 2014, or between 2012 and 2014. Furthermore, within these time periods, there were no significant changes in the score correlations for the tests in **reading** or **mathematics** for either non-low-income students or low-income students when all of the Pilot schools were combined into one data set.

At the school level, the most stable correlations were for the **reading** tests. For non-low-income students, there were only two significant changes in score correlations, namely, increases in the score correlations at Sidney High School between 2012 and 2013 and between 2012 and 2014. For low-income students, there were no significant increases or decreases in the correlations of scores on the reading tests over the course of the three years of testing.

For non-low-income students, the correlations of the tests in **mathematics** and **science** also were relatively stable. Over the course of the three years of testing, there were significant decreases in the score correlations for the math tests evidenced for Columbus High School and significant increases in the math score correlations calculated for Lincoln High School. With respect to the science tests, Lincoln Southwest was the only school with a significant increase in the correlation of scores on the science tests between 2012 and 2013, which was followed by a significant decrease between 2013 and 2014.

Compared to the non-low-income students, there were more significant changes evidenced in the score correlations of the math and science tests for the low-income students. However, these correlations also were relatively stable over the three years of testing.

For the low-income students tested at Alliance, the score correlations of the math tests significantly decreased between 2012 and 2013, and then significantly increased the following year. Between 2012 and 2013, the math test correlations significantly increased for the low-income students tested at Lincoln High and Lincoln Southeast. Between 2013 and 2014, the correlation of the scores on the math tests significantly increased for the low-income students tested at Scottsbluff.

The correlation of scores on the science tests significantly increased between 2012 and 2013 and between 2012 and 2014 for the low-income students tested at Columbus

High School. Over the same two time frames, the score correlation for the science tests significantly decreased for the students tested at Lincoln Northeast. In addition, the science test correlations significantly increased between 2013 and 2014 at Lincoln High and significantly decreased between 2012 and 2014 for the students tested at South Sioux Senior High School.

At the school level, a total of 234 comparisons were required to identify statistically significant changes in the correlations of scores on the reading, mathematics, and science tests for non-low-income and low-income students between 2012 and 2013, between 2013 and 2014, and between 2012 and 2014. Of the 234 comparisons, only 19 (8.1%) were statistically significant at the 0.05 level of probability. Described in the preceding paragraphs, these 19 significant changes were evidenced for the students tested at nine different schools, and these changes were almost equally divided between the low-income students and non-low-income students.

Conclusions: For all of the Pilot schools combined, the correlation of scores on the ACT and NeSA tests in **science** for non-low-income students significantly decreased between 2013 and 2014. However, there were no other significant changes in the correlations of scores on the tests in **reading, mathematics, or science** for the non-low-income or low-income students when all of the Pilot schools were combined into one data set. Furthermore, of the 234 comparisons at the school level, there were only 19 significant one-year or two-year changes in the correlation coefficients for the tests in reading, math, and science. Only two of these significant changes were evidenced for the **reading** tests, indicating that the correlation of scores on the reading tests were at least slightly more stable than those for the math and science tests. However, the correlation coefficients for the tests in **reading, mathematics, and science** were all relatively stable over the three years of testing, allowing the test data for all three years to be combined for summary analysis.

Overall Conclusions of the Analysis by Income

As reported above, the correlations of scores on the ACT and NeSA tests in **reading, mathematics, and science** were relatively stable over the three years of testing for both non-low-income and low-income 11th graders tested at the Pilot schools. However, the correlation analysis by income indicated that the scores on the ACT and NeSA tests in all three content areas were not equally correlated for non-low-income and low-income students.

For all of the Pilot schools combined, the scores on the tests in **reading, mathematics, and science** were more highly correlated for non-low-income students than for low-income students, except in the cases of the reading tests in 2013 and the science tests in 2014. At the school level, the correlations of scores on the reading, math, and science tests also tended to be higher for non-low-income students than for low-income students at the majority of the Pilot schools, except in the cases of the reading tests in 2013 and the science tests in 2014. However, the differences between the score correlations of the two income groups were usually not statistically significant at the school level.

See [Table A3.1](#), [Table A3.2](#), [Table A3.3](#), and [Table A3.4](#) in [Appendix 3](#) for the critical value and 95% confidence interval associated with each of the score correlations calculated for non-low-income and low-income students for the tests in reading, mathematics, and science for all of the Pilot schools combined and each of the 13 Pilot schools for each of the three years of testing and for the three years of testing combined.

Part 4: Score Correlations for the Student Populations Defined by Race/Ethnicity

This section presents the findings of the correlation analysis of the scores on the ACT and NeSA tests in reading, mathematics, and science by race/ethnicity for the 13 Pilot schools combined and for the schools with sufficient numbers of students for racial/ethnic comparisons. The purpose of this analysis was to determine if the scores on the ACT and NeSA tests in reading, mathematics, and science were equally correlated for each of the six racial/ethnic groups.

Numbers of Students Tested

Table 4.1, Table 4.2, and Table 4.3, beginning on the page after next, report the number of 11th graders in each racial/ethnic group who took the ACT and NeSA tests in reading, math, and science in spring 2012, spring 2013, and spring 2014, respectively. Table 4.4 reports the total numbers of students tested over the three-year period. Based on the data summarized in these tables:

- With the three years of testing combined, 69.6% of the students tested were white non-Hispanics and 17.0% were Hispanics.
 - In both 2012 and 2013, about 2,400 white non-Hispanics took the ACT and NeSA tests, accounting for 71% of the total students tested at the Pilot schools. In 2014, the number of white non-Hispanics decreased to about 2,360, or 68% of the total tested.
 - In 2012, 530 Hispanics took ACT and NeSA tests, accounting for 16% of the total tested. In 2013, the number of Hispanics increased to 562, accounting for 16.5% of the total students tested. In 2014, the number of Hispanics increased to about 665, or 19% of the total tested.

As also reported in the tables in this section, far fewer students in the other four racial groups were tested in 2012, 2013, and 2014.

- Over the three years of testing combined, 4.1% of the students tested were Asians, 4.3% were black non-Hispanics, 1.0% were Native Americans, and 4.0% were students of two or more races.
 - About 150 Asians took the ACT and NeSA tests in 2012, about 135 took the tests in 2013, and 132 were tested in 2014, accounting for about 4% of the total tested each year.
 - In 2012, 165 black non-Hispanics were tested, or about 5% of the total. In 2013, the number of blacks tested decreased to 123, or 3.6% of the total, but increased to 153 in 2014, or 4.4% of the total tested.
 - Only 40 Native Americans took the ACT and NeSA tests in 2012, 32 took the assessments in 2013, and 29 were tested in 2014, accounting for only about 1% of the students tested each year.

- In 2012, 112 students of two or more races were tested, accounting for about 3% of the total. In 2013 and 2014, the number of students of two or more races increased to 148 and 155, respectively, or to about 4% of the total tested.

For the 13 Pilot schools combined, the samples of students in all six of the racial/ethnic groups were of sufficient size and stability to test the hypothesis that the scores on the ACT and NeSA tests were equally correlated across all of the racial/ethnic groups. However, this was not the case at the school level.

As reported in [Table 4.1](#), [Table 4.2](#), and [Table 4.3](#), no Native Americans or fewer than 10 Native Americans were tested at each of the Pilot schools, except for the 11 Natives tested at South Sioux Senior High School in 2012. Consequently, Native Americans had to be excluded from the correlation analysis at the school level.

Students of two or more races also were excluded due to insufficient sample sizes. In 2012, 2013, and 2014, more than 10 students of two or more races were tested at each of the six public high schools in Lincoln.¹ However, none of these samples met the 20-student minimum for comparing one correlation coefficient to another in 2012, and only two of the samples met this standard in 2013 and 2014.

Based on the number of students tested at each of the 13 Pilot schools, Lincoln High School and North Star High School in Lincoln were the only two schools with sufficient numbers of students in each of the remaining groups—white non-Hispanics, Asians, black non-Hispanics, and Hispanics—for a comparative analysis of score correlations. At Lincoln High, these four groups accounted for 94% of the students tested in 2012, 90% in 2013, and 94% in 2014. At Lincoln North Star, the four groups accounted for 95% of the students tested in 2012, 2013, and 2014.

Five other schools—Columbus, Gering, Hastings, Scottsbluff, and South Sioux—had sufficient samples of white non-Hispanics and Hispanics to compare the score correlations of these two racial/ethnic groups. In the case of South Sioux, whites and Hispanics accounted for 88% or 89% of the students tested in 2012, 2013, or 2014. At the other four schools, whites and Hispanics accounted for 94% to 98% of the 11th graders who took the ACT and NeSA tests in 2012, 2013, or 2014.

The remaining six Pilot schools did not test sufficient numbers of Hispanics or other minority students in 2012, 2013, or 2014 for meaningful comparisons. Consequently, the students tested at these schools were included only in the comparisons of correlations calculated for all of the Pilot schools combined.

¹The numbers of students of two or more races tested at Lincoln High School and North Star High School in Lincoln had to be masked in [Table 4.1](#) and [Table 4.3](#) for 2012 and 2014, respectively, so that the fewer-than-10 Native Americans tested at these schools could not be determined by subtraction. For the same reason, the numbers of students of two or more races who were tested at Lincoln High had to be masked in [Table 4.2](#) for 2013.

Table 4.1
Number of Students in Each Racial/Ethnic Group Who Took the ACT and NeSA Tests
in Reading, Math, and Science in 2012 by School

Part A: Number of Students Tested in Reading							
School Population	2012						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,404	151	164	529	40	112	3,400
Alliance	79			17			103
Columbus	165			73			242
Gering	80			32			115
Hastings	189			38			236
Lincoln East	283					14	321
Lincoln High	196	56	63	50			389
Lincoln NE	235		22	13	0	18	298
Lincoln SE	351	10	16	18		16	415
Lincoln N Star	226	35	26	56			360
Lincoln SW	346	14	15	29	0	11	415
Scottsbluff	116			54			178
Sidney	59						64
South Sioux	79	10		136	11		245
Part B: Number of Students Tested in Mathematics							
School Population	2012						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,405	150	165	530	40	111	3,401
Alliance	79			17			103
Columbus	165			74			243
Gering	80			32			115
Hastings	189			38			236
Lincoln East	283					14	321
Lincoln High	196	56	63	50			389
Lincoln NE	236	10	22	13	0	17	298
Lincoln SE	351		17	18		16	416
Lincoln N Star	226	35	26	56			360
Lincoln SW	346	14	15	29	0	11	415
Scottsbluff	116			54			178
Sidney	59						64
South Sioux	79			136	11		244

Continued on the next page.

Table 4.1, Continued
Number of Students in Each Racial/Ethnic Group Who Took the ACT and NeSA Tests in Reading, Math, and Science in 2012 by School

Part C: Number of Students Tested in Science							
School Population	2012						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,402	149	164	527	40	111	3,393
Alliance	79			17			103
Columbus	165			73			242
Gering	80			32			115
Hastings	189			38			236
Lincoln East	283					14	321
Lincoln High	196	56	63	49			388
Lincoln NE	234	10	22	13	0	17	296
Lincoln SE	350		16	17		16	413
Lincoln N Star	226	34	26	56			359
Lincoln SW	346	14	15	29	0	11	415
Scottsbluff	116			54			178
Sidney	59						64
South Sioux	79			136	11		244

Table 4.2
Number of Students in Each Racial/Ethnic Group Who Took the ACT and NeSA Tests in Reading, Math, and Science in 2013 by School

Part A: Number of Students Tested in Reading

School Population	2013						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,395	134	123	562	32	148	3,394
Alliance	91			20			125
Columbus	143			66			213
Gering	101			44			152
Hastings	158			37			205
Lincoln East	298	13		16		11	344
Lincoln High	157	37	38	46			309
Lincoln NE	240		13	25		23	307
Lincoln SE	316		14	21		16	373
Lincoln N Star	279	34	29	39	0	20	401
Lincoln SW	369	20	11	16	0	19	435
Scottsbluff	94			74			172
Sidney	73						84
South Sioux	76	10		150			256

Part B: Number of Students Tested in Mathematics

School Population	2013						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,398	136	123	562	32	148	3,399
Alliance	91			20			125
Columbus	142			66			212
Gering	102			44			153
Hastings	158			36			204
Lincoln East	298	13		16		11	344
Lincoln High	157	39	38	46			311
Lincoln NE	240		13	25		23	307
Lincoln SE	319		14	22		16	377
Lincoln N Star	279	34	29	39	0	20	401
Lincoln SW	369	20	11	16	0	19	435
Scottsbluff	94			74			172
Sidney	73						84
South Sioux	76	10		150			256

Continued on the next page.

Table 4.2, Continued
Number of Students in Each Racial/Ethnic Group Who Took the ACT and NeSA Tests in Reading, Math, and Science in 2013 by School

Part C: Number of Students Tested in Science							
School Population	2013						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,395	136	123	562	32	148	3,396
Alliance	91			20			125
Columbus	143			66			213
Gering	101			44			152
Hastings	158			37			205
Lincoln East	298	13		16		11	344
Lincoln High	157	39	38	46			311
Lincoln NE	240		13	25		23	307
Lincoln SE	316		14	21		16	373
Lincoln N Star	279	34	29	39	0	20	401
Lincoln SW	369	20	11	16	0	19	435
Scottsbluff	94			74			172
Sidney	73						84
South Sioux	76	10		150			256

Table 4.3
Number of Students in Each Racial/Ethnic Group Who Took the ACT and NeSA Tests in Reading, Math, and Science in 2014 by School

Part A: Number of Students Tested in Reading							
School Population	2014						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,364	132	153	665	29	155	3,498
Alliance	88			21			114
Columbus	197			79			291
Gering	94			45			142
Hastings	153			56			222
Lincoln East	260	13		8		14	303
Lincoln High	149	35	47	62			314
Lincoln NE	221		25	30		25	313
Lincoln SE	395		17	27		37	493
Lincoln N Star	234	23	33	65			375
Lincoln SW	330	14		27		15	399
Scottsbluff	92	0	0	66	0	0	158
Sidney	68						75
South Sioux	83	11		172			280
Part B: Number of Students Tested in Mathematics							
School Population	2014						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,366	132	153	662	29	155	3,497
Alliance	88			21			114
Columbus	197			77			289
Gering	94			44			141
Hastings	153			56			222
Lincoln East	260	13				14	303
Lincoln High	149	35	47	62			314
Lincoln NE	223		25	30		25	315
Lincoln SE	395		17	27		37	493
Lincoln N Star	234	23	33	65			375
Lincoln SW	331	14		27		15	400
Scottsbluff	92	0	0	66	0	0	158
Sidney	67						74
South Sioux	83	11		172			280

Continued on the next page.

Table 4.3, Continued
Number of Students in Each Racial/Ethnic Group Who Took the ACT and NeSA Tests in Reading, Math, and Science in 2014 by School

Part C: Number of Students Tested in Science							
School Population	2014						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	2,361	132	152	664	29	155	3,493
Alliance	88			21			114
Columbus	197			79			291
Gering	94			44			141
Hastings	153			56			222
Lincoln East	260	13				14	303
Lincoln High	149	35	46	62			313
Lincoln NE	220		25	30		25	312
Lincoln SE	395		17	27		37	493
Lincoln N Star	234	23	33	65			375
Lincoln SW	329	14		27		15	398
Scottsbluff	92	0	0	66	0	0	158
Sidney	67						74
South Sioux	83	11		172			280

Table 4.4
Number of Students in Each Racial/Ethnic Group Who Took the ACT and NeSA Tests in Reading, Math, and Science in 2012, 2013, and 2014 by School

Part A: Number of Students Tested in Reading							
School Population	3 Years of Testing Combined						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	7,163	417	440	1,756	101	415	10,292
Alliance	258			58		19	344
Columbus	505			218		11	752
Gering	275			121		13	415
Hastings	500			131		16	670
Lincoln East	841	34		32		39	971
Lincoln High	502	128	148	158	16	60	1,012
Lincoln NE	696		60	68		66	922
Lincoln SE	1,062	28	47	66	10	69	1,282
Lincoln N Star	739	92	88	160	10	49	1,138
Lincoln SW	1,045	48		72		45	1,253
Scottsbluff	302			194			520
Sidney	200			20			224
South Sioux	238	31	18	458	20	16	781
Part B: Number of Students Tested in Mathematics							
School Population	3 Years of Testing Combined						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	7,169	418	441	1,754	101	414	10,297
Alliance	258			58		19	344
Columbus	504			217		11	750
Gering	276			120		13	415
Hastings	500			130		16	669
Lincoln East	841	34		32		39	971
Lincoln High	502	130	148	158	16	60	1,014
Lincoln NE	699		60	68		65	924
Lincoln SE	1,065	28	48	67	10	69	1,287
Lincoln N Star	739	92	88	160	10	49	1,138
Lincoln SW	1,046	48		72		45	1,254
Scottsbluff	302			194			520
Sidney	199			20			223
South Sioux	238	30	18	458	20	16	780

Continued on the next page.

Table 4.4, Continued
Number of Students in Each Racial/Ethnic Group Who Took the ACT and NeSA Tests in Reading, Math, and Science in 2012, 2013, and 2014 by School

Part C: Number of Students Tested in Science							
School Population	3 Years of Testing Combined						
	White non-Hispanic	Asian	Black non-Hispanic	Hispanic	Native American	Two or More Races	Total Tested
All Schools	7,158	417	439	1,753	101	414	10,282
Alliance	258			58		19	344
Columbus	505			218		11	752
Gering	275			120		13	414
Hastings	500			131		16	670
Lincoln East	841	34		32		39	971
Lincoln High	502	130	147	157	16	60	1,012
Lincoln NE	694		60	68		65	919
Lincoln SE	1,061	28	47	65	10	69	1,280
Lincoln N Star	739	91	88	160	10	49	1,137
Lincoln SW	1,044	48		72		45	1,252
Scottsbluff	302			194			520
Sidney	199			20			223
South Sioux	238	30	18	458	20	16	780

Score Correlations by Race/Ethnicity: Reading

Figure 4.1 below compares the correlations of scores on the ACT and NeSA tests in **reading** for the six racial/ethnic groups with the 13 Pilot schools combined. As shown in this figure, Asians were the only group with score correlations that were consistently higher, and often significantly higher, than the correlations for the other five racial/ethnic groups for each of the three years of testing. However, depending on the year of testing, white non-Hispanics and Hispanics also had significantly higher correlations than at least one other racial/ethnic group.

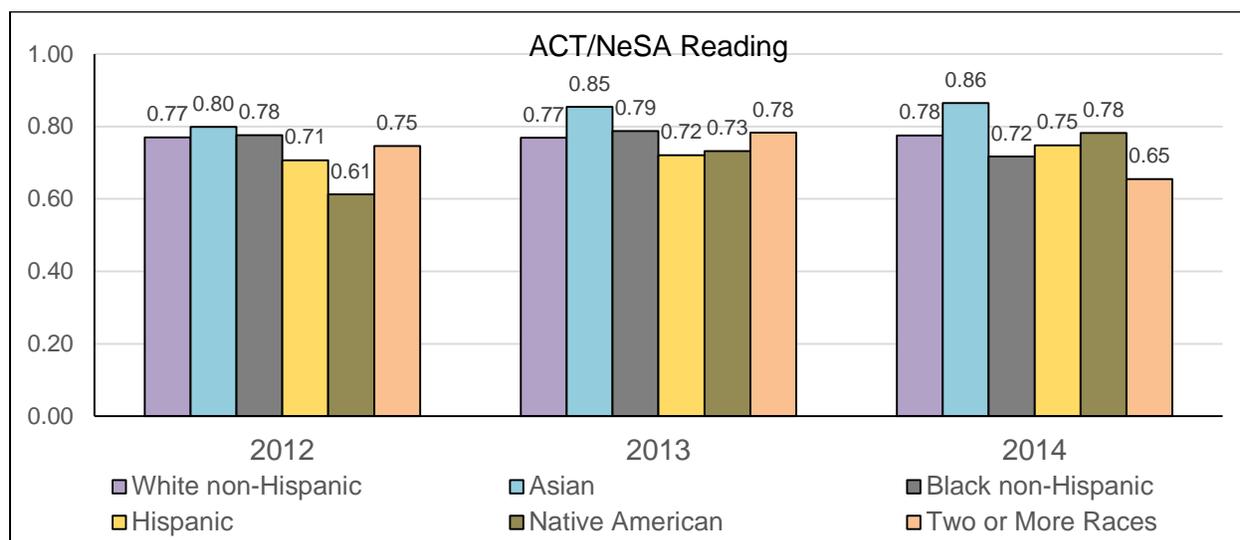
In spring 2012, Asians had a significantly higher correlation of scores on the reading tests than Hispanics ($p = 0.020$) and Native Americans ($p = 0.037$). Also in 2012, white non-Hispanics had a significantly higher correlation than Hispanics ($p = 0.003$), and the difference between the correlations for whites and Native Americans was close to significant ($p = 0.063$).

In spring 2013, Asians had a significantly higher score correlation than white non-Hispanics ($p = 0.004$). In addition, both Asians and whites had significantly higher correlations than Hispanics in 2013 ($p = 0.000$ and $p = 0.021$, respectively).

There were no statistically significant increases between 2012 and 2013 in the score correlations for any of the six racial/ethnic groups, including the noticeable increase in the score correlation for Native Americans. However, between 2013 and 2014, the correlation of scores on the reading tests taken by students of two or more races significantly decreased from 0.78 in 2013 to 0.65 in 2014 ($p = 0.020$).

Figure 4.1

**Score Correlations of the ACT and NeSA Assessments in Reading
Taken in Spring 2012, 2013, and 2014 for Each Racial/Ethnic Group
All Pilot Schools Combined**

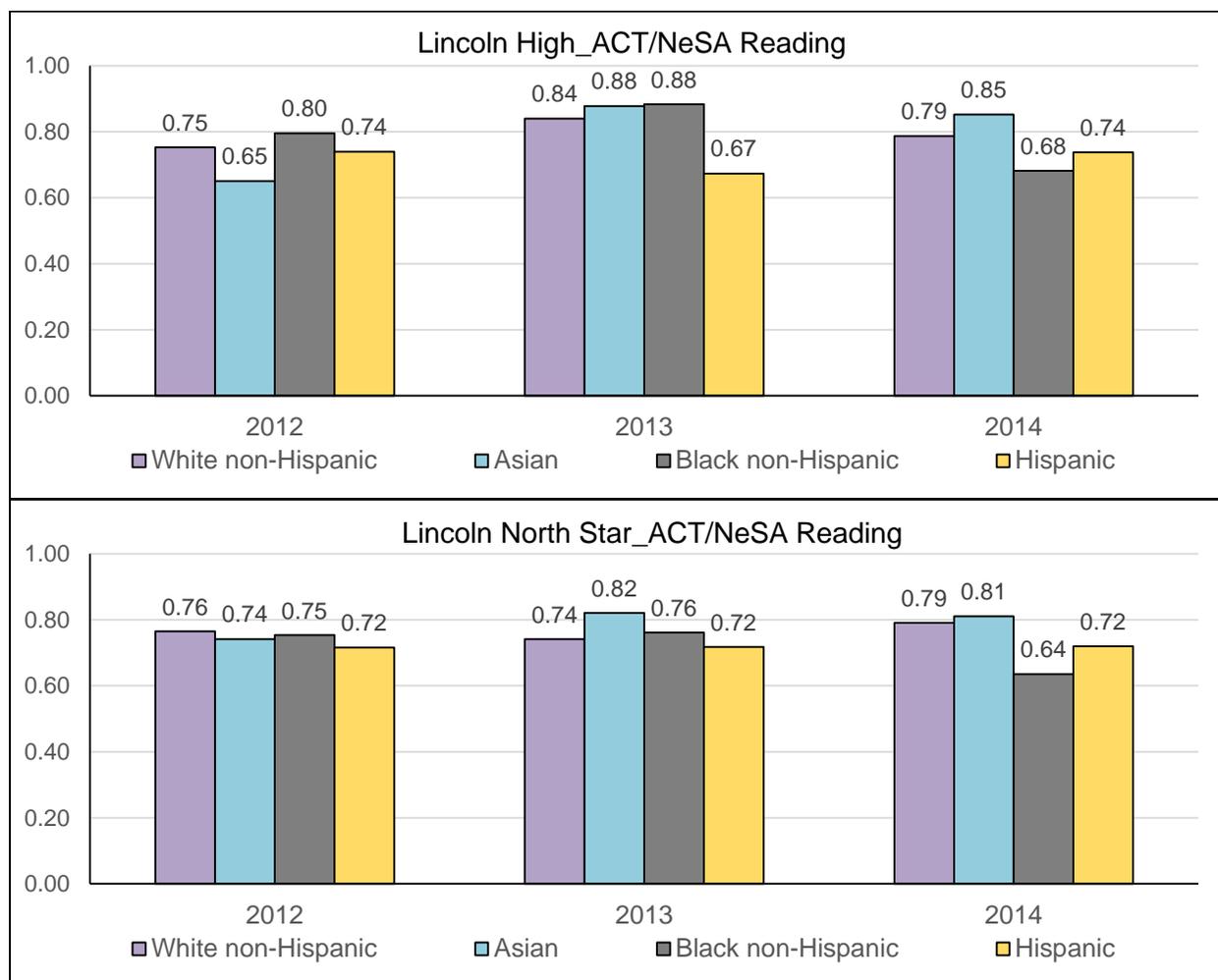


As a result of the 2013-to-2014 decrease in the correlation for students of two or more races, Asians, white non-Hispanics, and Hispanics had significantly higher score correlations than students of two or more races ($p = 0.000$, $p = 0.003$, and $p = 0.040$, respectively) in 2014. In addition, Asians also had a significantly higher correlation than white non-Hispanics ($p = 0.002$), black non-Hispanics ($p = 0.001$), and Hispanics ($p = 0.000$) in 2014. (That the correlation of 0.78 for Native Americans also was not significantly higher than the correlation of 0.65 for students of two or more races was due to the fact that only 29 Native Americans were tested in 2014.)

Figure 4.2 below shows the score correlations for white non-Hispanics, Asians, black non-Hispanics, and Hispanics who took the ACT and NeSA tests in reading at Lincoln High School and North Star High School in Lincoln. There were no significant differences between any of the correlation coefficients for the four racial/ethnic groups at either school in 2012, or for the students at Lincoln North Star in 2013. However,

Figure 4.2

Score Correlations of the ACT and NeSA Assessments in Reading Taken in Spring 2012, 2013, and 2014 for Four Racial/Ethnic Groups Lincoln High School and Lincoln North Star High School



between 2012 and 2013, there were significant or noticeable increases in the score correlations for white non-Hispanics, Asians, and black non-Hispanics who took the tests at Lincoln High. As a result, the score correlations for white non-Hispanics, Asians, and black non-Hispanics were all significantly higher than the correlation for Hispanics at Lincoln High in 2013.

Referring back to Figure 4.2 on the previous page, there was a statistically significant decrease between 2013 and 2014 in the correlation of scores on the reading tests for black non-Hispanics tested at Lincoln High and a similar, but not statistically significant, decrease for the same group at Lincoln North Star. As a result, in 2014, there were noticeable differences between the score correlations for black non-Hispanics and each of the correlations calculated for the other three groups compared at both schools. However, these differences were not statistically significant.

Figure 4.3 on the next page compares the score correlations for white non-Hispanics and Hispanics who took the ACT and NeSA reading tests at Columbus, Gering, Hastings, Scottsbluff, and South Sioux high schools. Although there were noticeable differences between the score correlations for white non-Hispanics and Hispanics at Gering and South Sioux in 2012, and also at South Sioux in 2014, these differences were not statistically significant. In 2013, the correlation of scores for white non-Hispanics was significantly higher than the correlation for Hispanics at South Sioux. Otherwise, however, there were no consistent or significant differences between the correlations for white non-Hispanics and Hispanics at the school level.

Conclusions: For the 13 Pilot schools combined, Asians consistently had the highest correlations of scores on the ACT and NeSA tests in **reading** and, in several cases, the score correlations for Asians were significantly higher than those for the other five racial/ethnic groups. In summary, Asians had a significantly higher score correlation than Native Americans in 2012; Hispanics in 2012, 2013, and 2014; white non-Hispanics in 2013 and 2014; and black non-Hispanics and students of two or more races in 2014.

For all of the Pilot schools combined, white non-Hispanics also had a significantly higher correlation of scores on the reading tests than Hispanics in 2012 and 2013 and a significantly higher correlation than students of two or more races in 2014. In 2014, Hispanics also had a significantly higher correlation of scores on the reading tests than students of two or more races. Consequently, for all of the 13 Pilot schools combined, the comparative analysis clearly indicated that the scores on the ACT and NeSA tests in reading were not equally correlated for the six groups defined by race/ethnicity.

At the school level, the score correlations for white non-Hispanics, Asians, and black non-Hispanics were all significantly higher than the correlation for Hispanics at Lincoln High School in 2013. The comparative analysis at the school level also revealed that white non-Hispanics had a significantly higher score correlation than Hispanics tested at South Sioux Senior High School in 2013. However, at the school level, there was no other evidence that the score correlations for Hispanics were significantly lower than those for white non-Hispanics, Asians, or black non-Hispanics in 2012, 2013, or 2014.

Figure 4.3

**Score Correlations of the ACT and NeSA Assessments in Reading
Taken in Spring 2012, 2013, and 2014 for White Non-Hispanics and Hispanics
Columbus, Gering, Hastings, Scottsbluff, and South Sioux High Schools**



Score Correlations by Race/Ethnicity: Mathematics

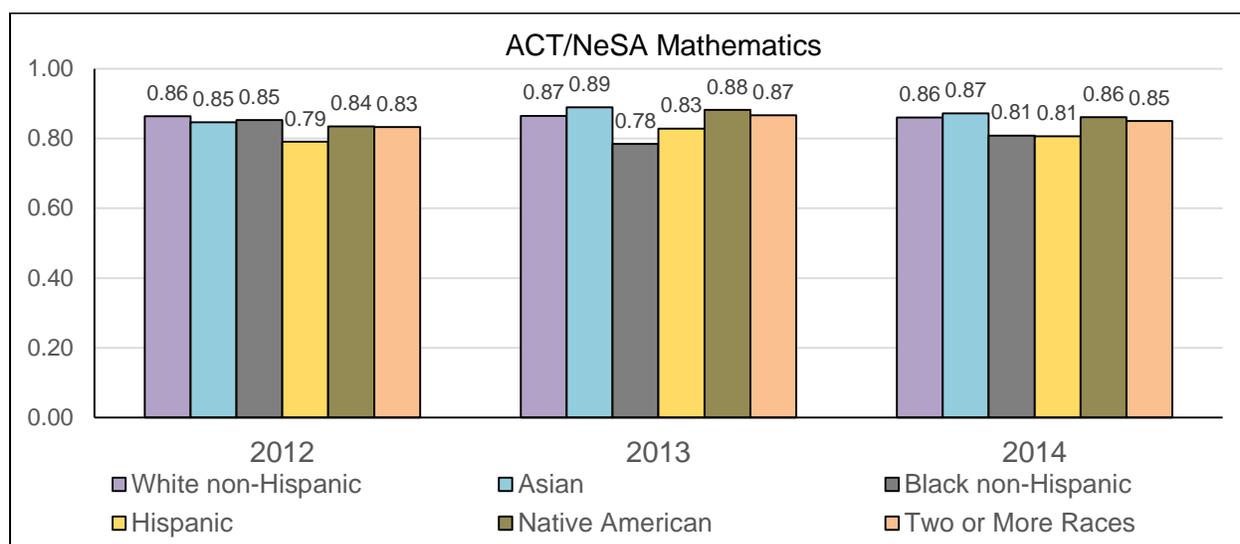
Figure 4.4 compares the correlations of scores on the ACT and NeSA tests in **mathematics** for the six racial/ethnic groups with the 13 Pilot schools combined. As this figure illustrates, the overall patterns of the correlations were very similar in 2012, 2013, and 2014, reflecting the fact that the score correlations were relatively stable over the three years of testing.

More specifically, the score correlation for white non-Hispanics was significantly higher than the correlations of scores on the tests in mathematics for Hispanics in 2012 ($p = 0.000$), 2013 ($p = 0.006$), and 2014 ($p = 0.000$). Similarly, the correlations calculated for Asians were significantly higher than the score correlations for Hispanics in 2012 ($p = 0.066$), 2013 ($p = 0.014$), and 2014 ($p = 0.019$).

In 2012, the correlation of scores on the math tests for black non-Hispanics also was higher than the correlation for Hispanics ($p = 0.031$). However, between 2012 and 2013, there was a noticeable decrease in the correlation for black non-Hispanics, from 0.85 in 2012 to 0.78 in 2013, followed by only a slight increase to 0.81 in 2014. As a result, the correlation for white non-Hispanics was significantly higher than the correlation for black non-Hispanics in 2013 ($p = 0.006$) and 2014 ($p = 0.040$). Likewise, the correlation for Asians was significantly higher than the correlation for black non-Hispanics in 2013 ($p = 0.004$) and noticeably higher in 2014 ($p = 0.067$). In addition, the score correlation for students of two or more races was significantly higher than the correlation for black non-Hispanics in 2013 ($p = 0.033$), but only slightly higher in 2014.

Figure 4.4

Score Correlations of the ACT and NeSA Assessments in Mathematics Taken in 2012, 2013, and 2014 for Each Racial/Ethnic Group All Pilot Schools Combined

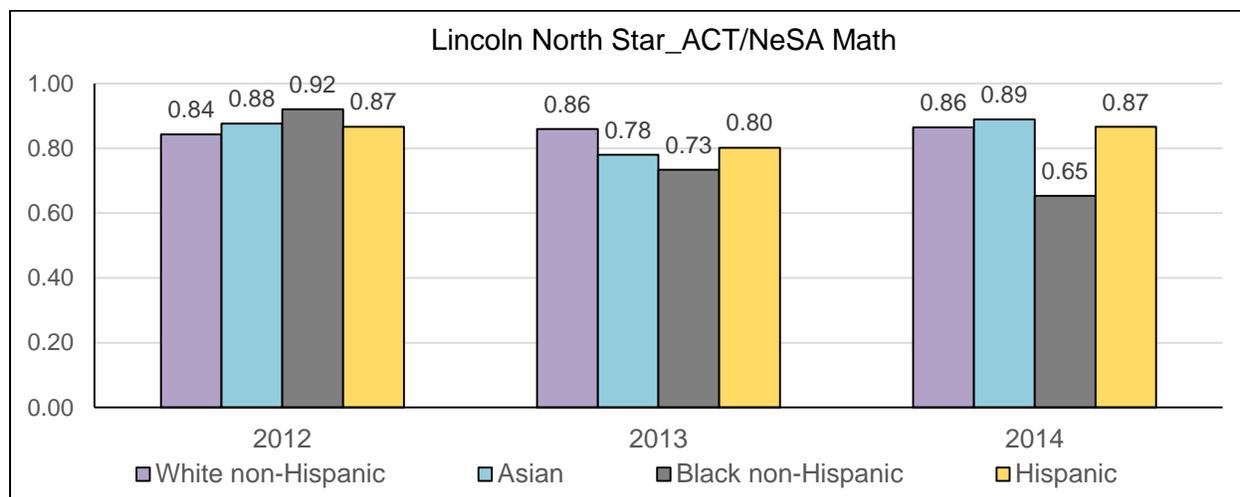
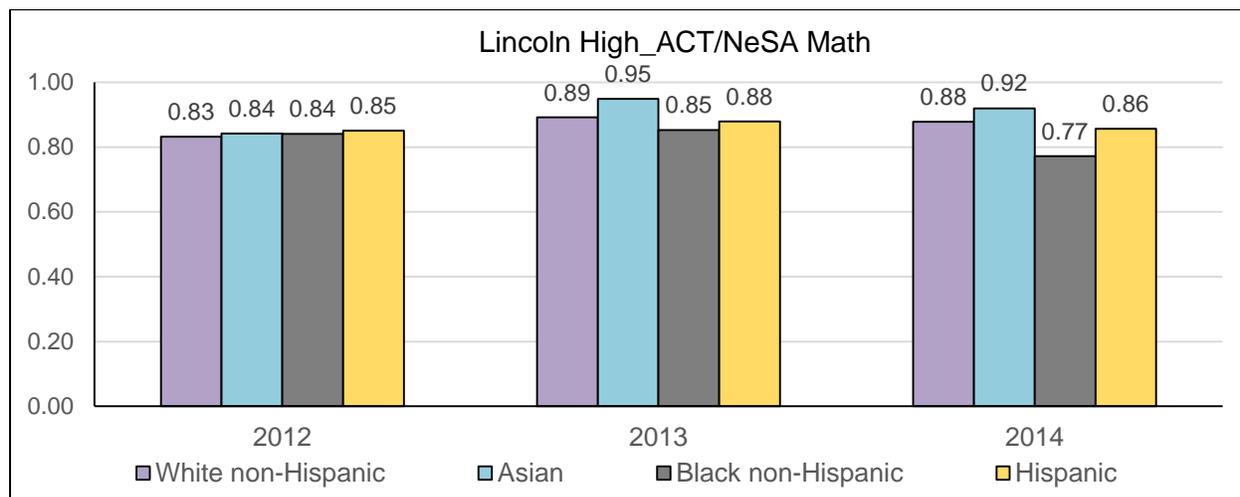


At the school level, [Figure 4.5](#) shows the score correlations for white non-Hispanics, Asians, black non-Hispanics, and Hispanics who took the ACT and NeSA tests in mathematics at Lincoln High School and North Star High School in Lincoln. Referring first to the comparison of correlations at Lincoln High School, there were no significant, or even noticeable, differences between any of the correlation coefficients for the four racial/ethnic groups in 2012. However, between 2012 and 2013, the score correlations for Asians significantly increased from 0.84 to 0.95. As a result, the score correlation for Asians was significantly higher than the correlations for white non-Hispanics, black non-Hispanics, and Hispanics at Lincoln High in 2013.

Between 2013 and 2014, the score correlation for black non-Hispanics tested at Lincoln High noticeably decreased from 0.85 to 0.77. Consequently, the correlation of

Figure 4.5

Score Correlations of the ACT and NeSA Assessments in Mathematics Taken in Spring 2012, 2013, and 2014 for Four Racial/Ethnic Groups Lincoln High School and Lincoln North Star High School



scores on the math tests for black non-Hispanics was significantly lower than the correlations for white non-Hispanics and Asians at Lincoln High in 2014.

At Lincoln North Star, the score correlation for black non-Hispanics was significantly higher than the correlation for white non-Hispanics in 2012. However, between 2012 and 2013, the score correlation for black non-Hispanics decreased significantly, from 0.92 to 0.73. With this decrease, the score correlations for white non-Hispanics, Asians, and Hispanics were all higher, but not significantly higher, than the correlation calculated for black non-Hispanics tested at Lincoln North Star in 2013.

Between 2013 and 2014, the score correlations for Asians noticeably increased from 0.78 to .89, and the correlation for Hispanics increased from 0.80 to 0.87. As a result, at Lincoln North Star, the correlation of scores for black non-Hispanics was significantly lower than the correlations for white non-Hispanics, Asians, and Hispanics in 2014.

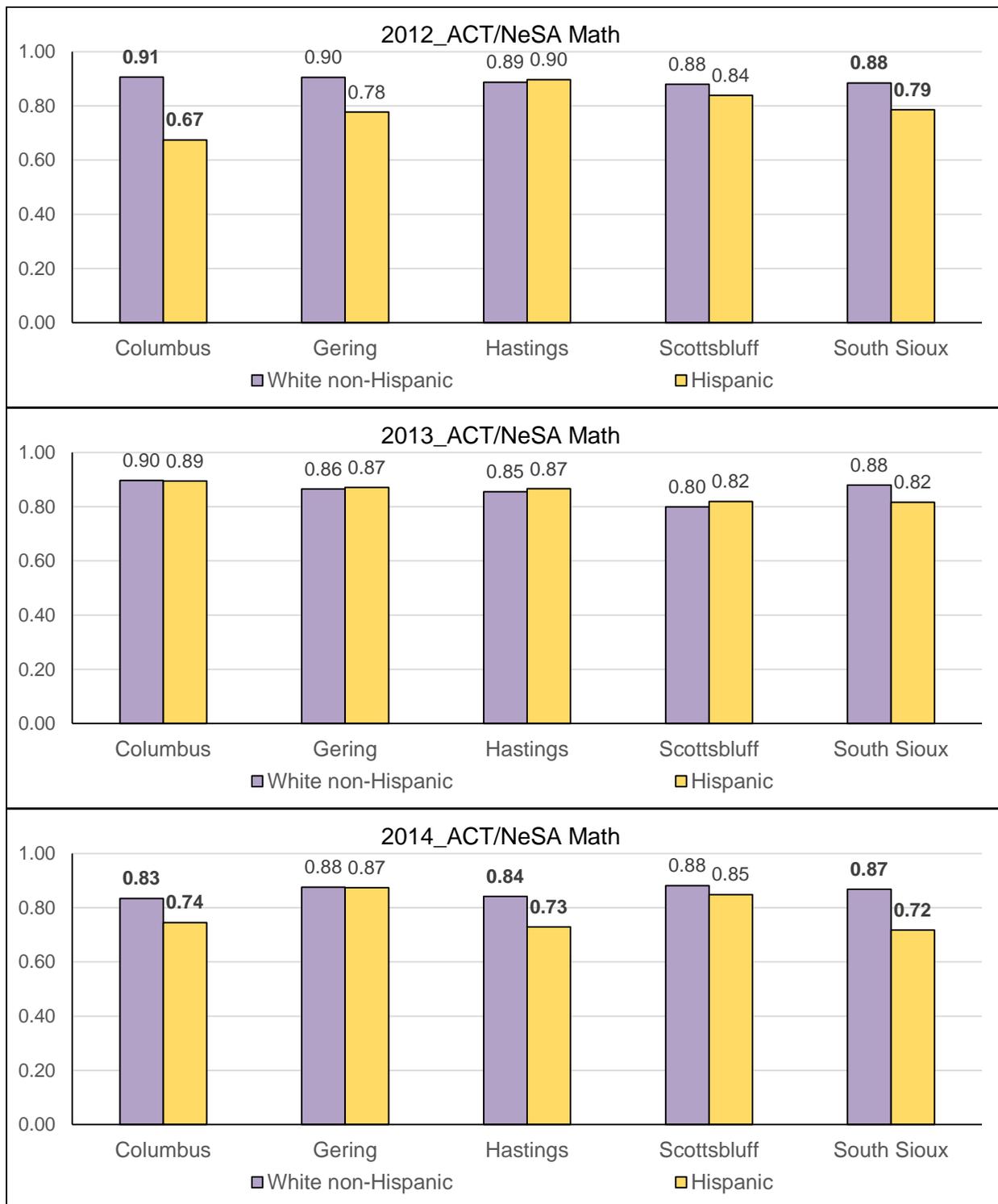
When the correlations of math scores for white non-Hispanics were compared to the correlations for Hispanics at five Pilot high schools, as shown in Figure 4.6 on the next page, the correlations for white non-Hispanics were significantly higher than the correlations for Hispanics at Columbus and South Sioux in 2012 and 2014 and also at Hastings in 2014. However, in 2013, there were no significant differences between the correlations for whites and Hispanics at any of the five Pilot schools.

Conclusions: For the 13 Pilot schools combined, the correlations of scores on the ACT and NeSA tests in **mathematics** were significantly higher for white non-Hispanics and Asians than for Hispanics in 2012, 2013, and 2014. In 2013 and 2014, the correlations for white non-Hispanics and Asians also were significantly higher than the correlation for black non-Hispanics. In addition, the correlation calculated for students of two or more races was higher than the correlation for black non-Hispanics in 2013. Consequently, for all of the 13 Pilot schools combined, the comparative analysis clearly indicated that the scores on the ACT and NeSA tests in mathematics were not equally correlated for the six groups defined by race/ethnicity.

At the school level, there also was evidence that the ACT and NeSA math tests were not equally correlated for white non-Hispanics, Asians, black non-Hispanics, and Hispanics. However, at the school level, none of these racial/ethnic groups had score correlations that were consistently higher or lower than the correlations for any other group of students defined by race/ethnicity.

Figure 4.6

**Score Correlations of the ACT and NeSA Assessments in Mathematics
Taken in Spring 2012, 2013, and 2014 for White Non-Hispanics and Hispanics
Columbus, Gering, Hastings, Scottsbluff, and South Sioux High Schools**



Score Correlations by Race/Ethnicity: Science

Figure 4.7 below compares the correlations of scores on the ACT and NeSA tests in **science** for the six racial/ethnic groups with the 13 Pilot schools combined. As illustrated in this figure, the overall patterns of these correlations were similar in 2013 and 2014, but noticeably different from the pattern in 2012.

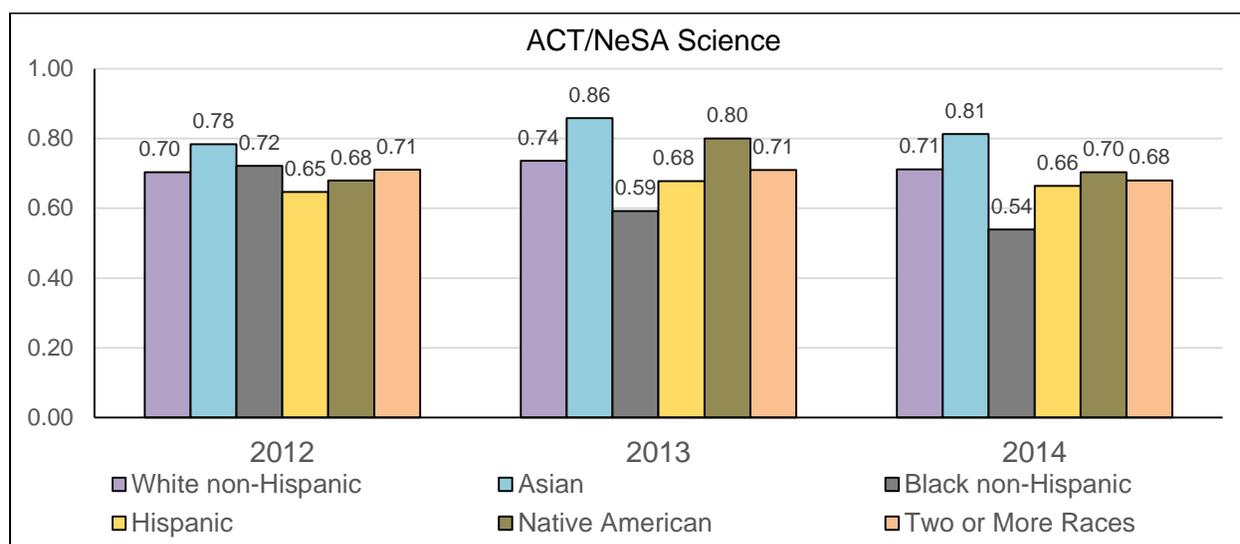
In spring 2012, Asians had a significantly higher score correlation than white non-Hispanics ($p = 0.035$) and Hispanics ($p = 0.002$). In turn, white non-Hispanics had a higher score correlation than Hispanics ($p = 0.031$). However, there were no significant differences between the correlations of black non-Hispanics, Native Americans, and students of two or more races tested in 2012.

Between 2012 and 2013, the score correlations for white non-Hispanics, Asians, and Native Americans increased significantly or noticeably and then decreased at least slightly in 2014. In comparison, the score correlation for black non-Hispanics decreased noticeably between 2012 and 2013 and continued to decrease slightly in 2014. As a result of these changes, there were more significant differences between the score correlations in 2013 and 2014 than there were in 2012.

Asians continued to have significantly higher correlations of scores on the science tests than white non-Hispanics in both 2013 ($p = 0.000$) and 2014 ($p = 0.007$). Asians also continued to have higher score correlations than Hispanics in 2013 ($p = 0.000$) and 2014 ($p = 0.000$). Likewise, white non-Hispanics continued to have higher correlations than Hispanics in 2013 ($p = 0.013$), as well as in 2014 ($p = 0.041$).

Figure 4.7

**Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2012, 2013, and 2014 for Each Racial/Ethnic Group
All Pilot Schools Combined**

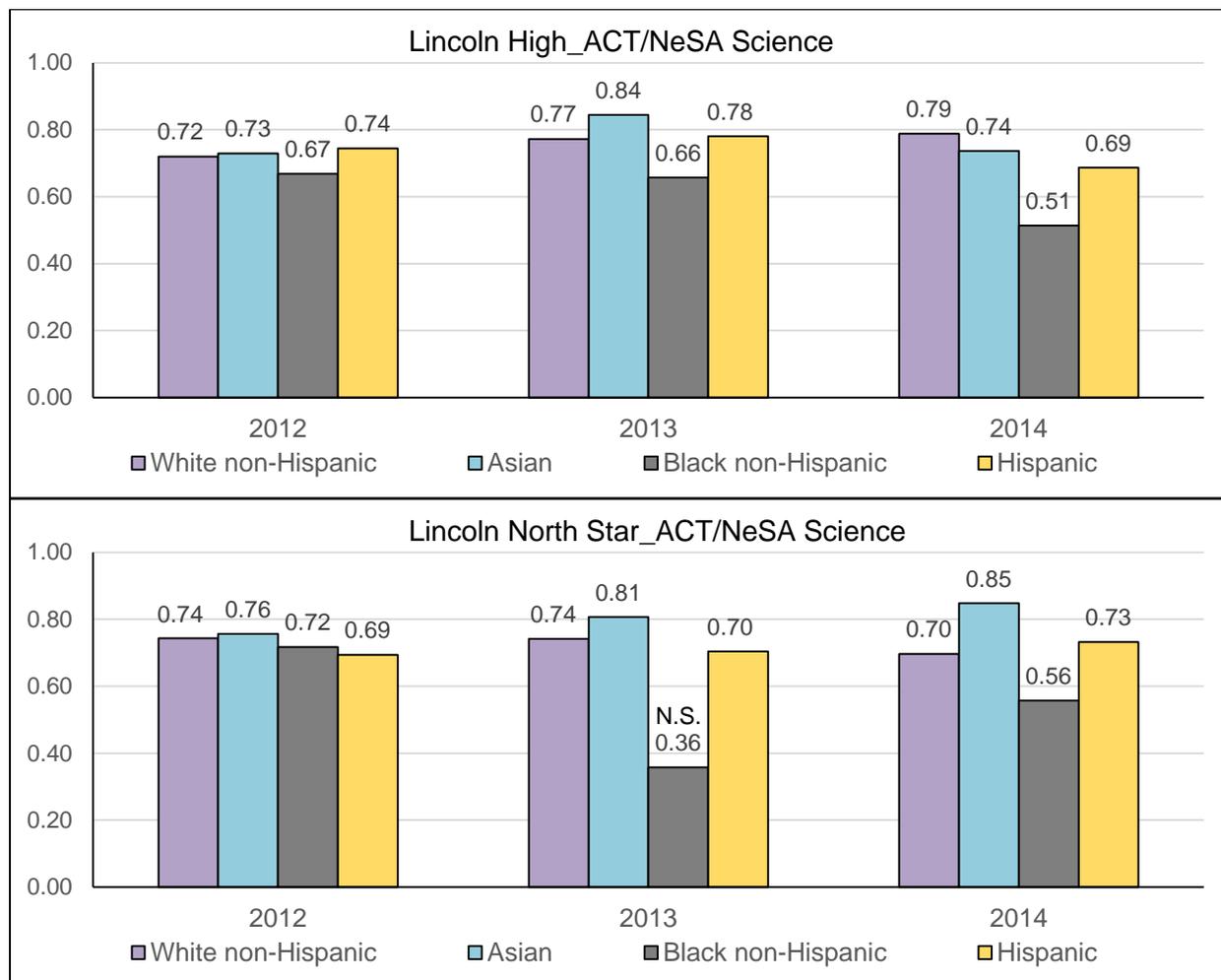


However, there were additional significant differences evidenced in 2013 and 2014 that were not evidenced in 2012. Specifically, Asians had higher correlations than black non-Hispanics in 2013 ($p = 0.000$) and 2014 ($p = 0.000$) and also higher correlations than students of two or more races in 2013 ($p = 0.001$) and 2014 ($p = 0.010$). Similarly, white non-Hispanics had higher correlations than black non-Hispanics in 2013 ($p = 0.005$) and 2014 ($p = 0.001$). In addition, Native Americans had a higher correlation than black non-Hispanics in 2013 ($p = 0.044$), Hispanics had a higher correlation than black non-Hispanics in 2014 ($p = 0.030$) and students of two or more races also had a higher correlation than black non-Hispanics in 2014 ($p = 0.050$).

The comparison of score correlations at the school level illustrated in [Figure 4.8](#) indicated that there were no significant differences between the correlations for white

Figure 4.8

**Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2012, 2013, and 2014 for Four Racial/Ethnic Groups
Lincoln High School and Lincoln North Star High School**



Note: The 0.36 correlation for black non-Hispanics in 2013 is not statistically significant (N.S.)

non-Hispanics, Asians, black non-Hispanics, and Hispanics at either Lincoln High or Lincoln North Star in 2012. However, in 2013, Asians had a significantly higher correlation of scores on the science tests than black non-Hispanics at Lincoln High. In addition, white non-Hispanics had a significantly higher correlation than black non-Hispanics tested at Lincoln High in 2014.

At Lincoln North Star, the correlation of scores on the science tests for black non-Hispanics was unusually low (0.36) and not statistically significant at the 0.05 level of probability in 2013. As a result, the correlation for black non-Hispanics was significantly lower than the correlations for white non-Hispanics, Asians, and Hispanics in 2013. In 2014, the score correlation for black non-Hispanics was higher (0.56), but still significantly lower than the correlation calculated for Asians.

As shown in Figure 4.9 on the next page, the score correlations for Hispanics at Columbus and Gering were unusually low in 2012 (0.35 and 0.48, respectively), but both of these coefficients were significant statistically at the 0.05 level of probability. These two correlations for Hispanics were significantly lower than the score correlations for white non-Hispanics tested at Columbus and Gering in 2012. However, in 2013, the correlations for Hispanics increased significantly at Columbus and Gering, so there were no longer significant differences between the correlations for whites and Hispanics at these two schools.

In 2013, the correlation for Hispanics was significantly lower than the correlation for white non-Hispanics tested at Scottsbluff. However, there were no other significant differences between the correlations of white non-Hispanics and Hispanics tested at Columbus, Gering, Hastings, Scottsbluff, or South Sioux.

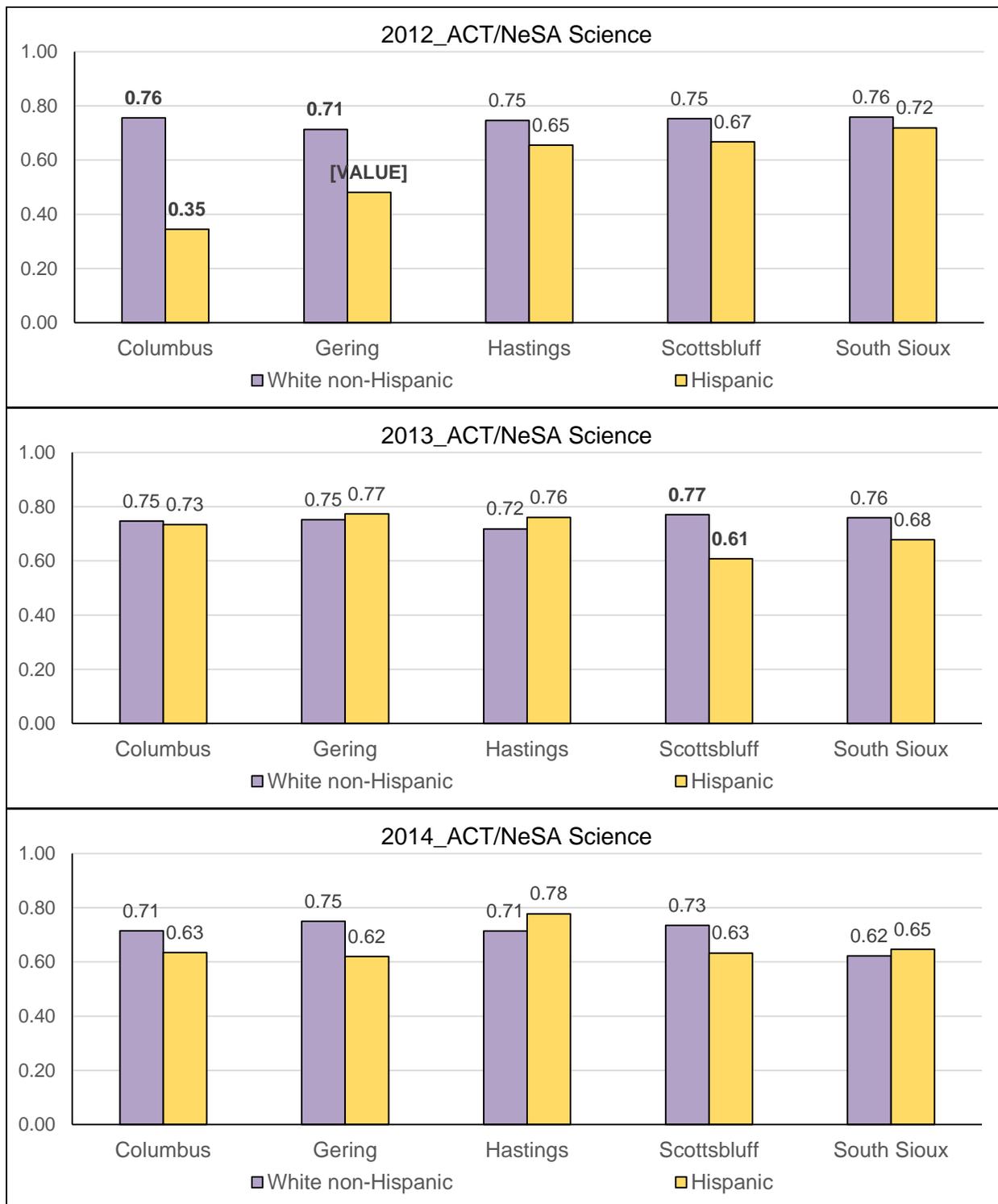
Conclusions: For the 13 Pilot schools combined, white non-Hispanics and Asians had significantly higher correlations of scores on the ACT and NeSA tests in **science** than Hispanics in 2012, 2013, and 2014. Also, for all three years of testing, Asians had significantly higher correlations than white non-Hispanics.

In 2013 and 2014, both Asians and white non-Hispanics had significantly higher score correlations than black non-Hispanics, and Asians also had significantly higher correlations than students of two or more races. In addition, there was evidence that Native Americans, Hispanics, and students of two or more races had significantly higher correlations than black non-Hispanics in 2013 or 2014 for all of the 13 Pilot schools combined.

At the school level, there also was evidence that Asians, white non-Hispanics, and Hispanics had significantly higher score correlations than black non-Hispanics at the two schools where all four racial/ethnic groups could be compared. Additionally, white non-Hispanics tended to have higher correlations than Hispanics at the five other schools where these two groups could be compared and, in a few cases, the correlations for white-non Hispanics were significantly higher. Based on these findings, the comparative analysis definitely indicated that the scores on the ACT and NeSA tests in mathematics were not equally correlated for all of the 13 Pilot schools combined or at the school level.

Figure 4.9

**Score Correlations of the ACT and NeSA Assessments in Science
Taken in Spring 2012, 2013, and 2014 for White Non-Hispanics and Hispanics
Columbus, Gering, Hastings, Scottsbluff, and South Sioux High Schools**



Overall Stability of the Score Correlations for the Groups Defined by Race/Ethnicity

As mentioned in the previous discussions, there were very few statistically significant increases or decreases in the correlations of scores on the ACT and NeSA tests in **reading**, **mathematics**, or **science** for the six groups defined by race/ethnicity.

Between 2012 and 2013, the correlations of scores on the **science** tests for all of the Pilot schools combined significantly increased for white non-Hispanics and Asians and noticeably increased for Native Americans, while the score correlations for black non-Hispanics significantly decreased. Between 2013 and 2014, there was a significant decrease in the correlation of scores on the **reading** tests for students of two or more races. However, there were no other significant changes in the score correlations for the **reading** and **science** tests, and no significant changes in the correlation of scores on the tests in **mathematics** between 2012 and 2013 or between 2013 and 2014 for all of the Pilot schools combined.

At the school level, there also were only a few significant increases or decreases in the score correlations calculated for each of the racial/ethnic groups. Consequently, it was permissible and meaningful to combine the three years of testing into one data set for the purpose of a summary analysis by race/ethnicity.

Summary Analysis by Race/Ethnicity with the Three Years of Testing Combined

Combining the three years of testing for all of the Pilot schools, as shown in [Figure 4.10](#) on the next page, further confirmed that the scores on the ACT and NeSA tests in **reading**, **mathematics**, and **science** were not equally correlated for the six racial/ethnic groups. The correlations highlighted in “bold” print in [Figure 4.10](#) were all significantly higher than the correlations for at least one or two other racial/ethnic groups. Furthermore, score correlations for Asians were significantly higher than the correlations of scores on the **reading** and **science** tests for all five of the other groups.

For the ACT and NeSA tests in **reading**, white non-Hispanics had a higher correlation than Hispanics ($p = 0.000$) and students of two or more races ($p = 0.030$). Also for the reading tests, Asians had a higher correlation than white non-Hispanics ($p = 0.000$), black non-Hispanics ($p = 0.002$), Hispanics ($p = 0.000$), Native Americans ($p = 0.002$), and students of two or more races ($p = 0.000$).

For the tests in **mathematics**, Asians and white non-Hispanics had higher correlations than black non-Hispanics ($p = 0.004$ and 0.000 , respectively) and Hispanics ($p = 0.000$ in both cases). In addition, students of two or more races also had a higher correlation than Hispanics ($p = 0.041$).

For the tests in **science**, white non-Hispanics had a higher correlation than black non-Hispanics ($p = 0.000$) and Hispanics ($p = 0.000$). Asians had a higher correlation than white non-Hispanics ($p = 0.000$), black non-Hispanics ($p = 0.000$), Hispanics ($p = 0.000$), Native Americans ($p = 0.011$), and students of two or more races ($p = 0.000$). Additionally, students of two or more races had a higher correlation than black non-Hispanics ($p = 0.050$).

Figure 4.10
Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics,
and Science Taken in Spring 2012, 2013, and 2014 for Each Racial/Ethnic Group
Three Years of Testing Combined
All Pilot Schools Combined

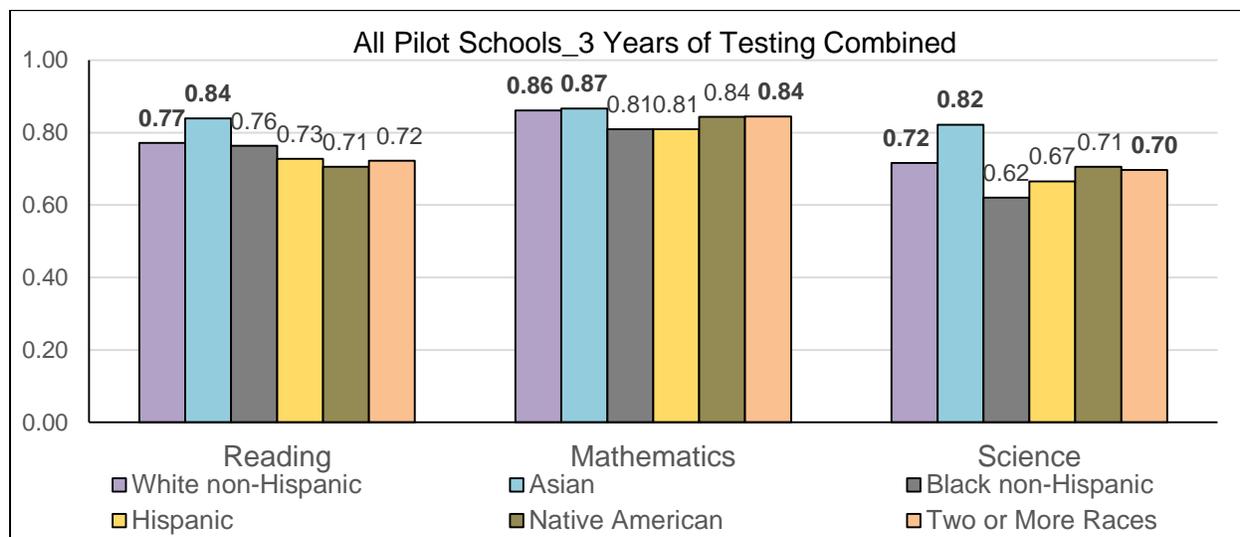


Figure 4.11 and Figure 4.12 on the following pages show that several of the correlations of scores on the tests in **reading**, **mathematics**, and **science** varied significantly by race/ethnicity at the school level. In each figure, a correlation that was significantly higher than the correlation for another group is highlighted in “bold” print.

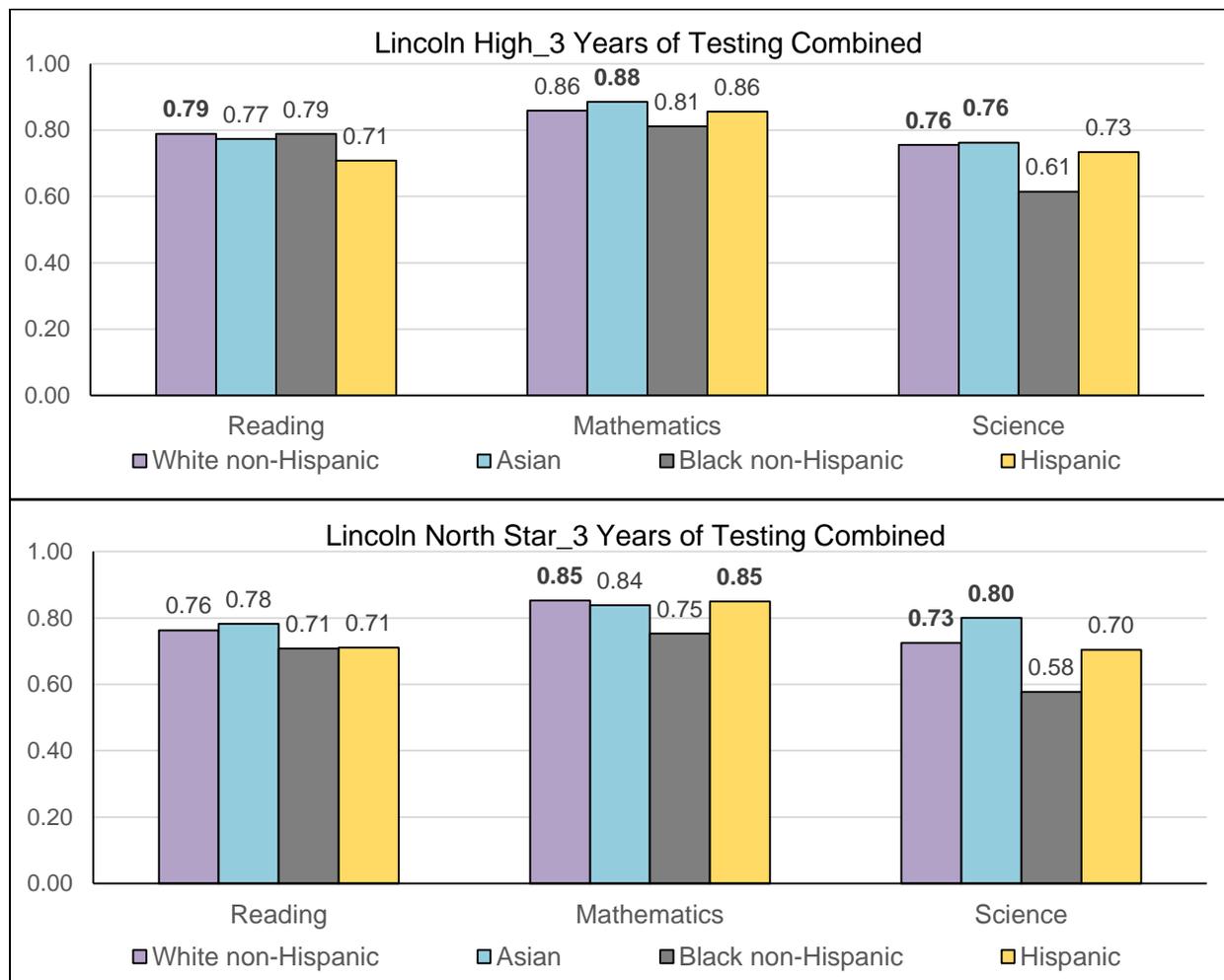
Referring to Figure 4.11 on the next page, white non-Hispanics tested at Lincoln High had a significantly higher score correlation than Hispanics for the **reading** tests, while Asians had a significantly higher score correlation than black non-Hispanics for the **mathematics** tests. For the tests in **science**, both white non-Hispanics and Asians had significantly higher correlations than black non-Hispanics tested at Lincoln High.

At Lincoln North Star, there were no significant differences between the score correlations for the **reading** tests. However, as illustrated in Figure 4.11, white non-Hispanics and Hispanics had significantly higher correlations than black non-Hispanics for the **mathematics** tests. For the **science** tests, white non-Hispanics and Asians had significantly higher correlations than black non-Hispanics tested at Lincoln North Star.

Figure 4.12 on the page after next compares the score correlations for white non-Hispanics and Hispanics at the five other high schools where these two groups could be compared over the three years of testing. As shown in this figure, white non-Hispanics had a significantly higher correlation of scores on the **reading** tests than Hispanics tested at South Sioux. For the tests in **mathematics**, white non-Hispanics had significantly higher correlations than Hispanics tested at Columbus and South Sioux. For the **science** tests, white non-Hispanics had significantly higher correlations than Hispanics tested at Columbus and Scottsbluff.

Figure 4.11

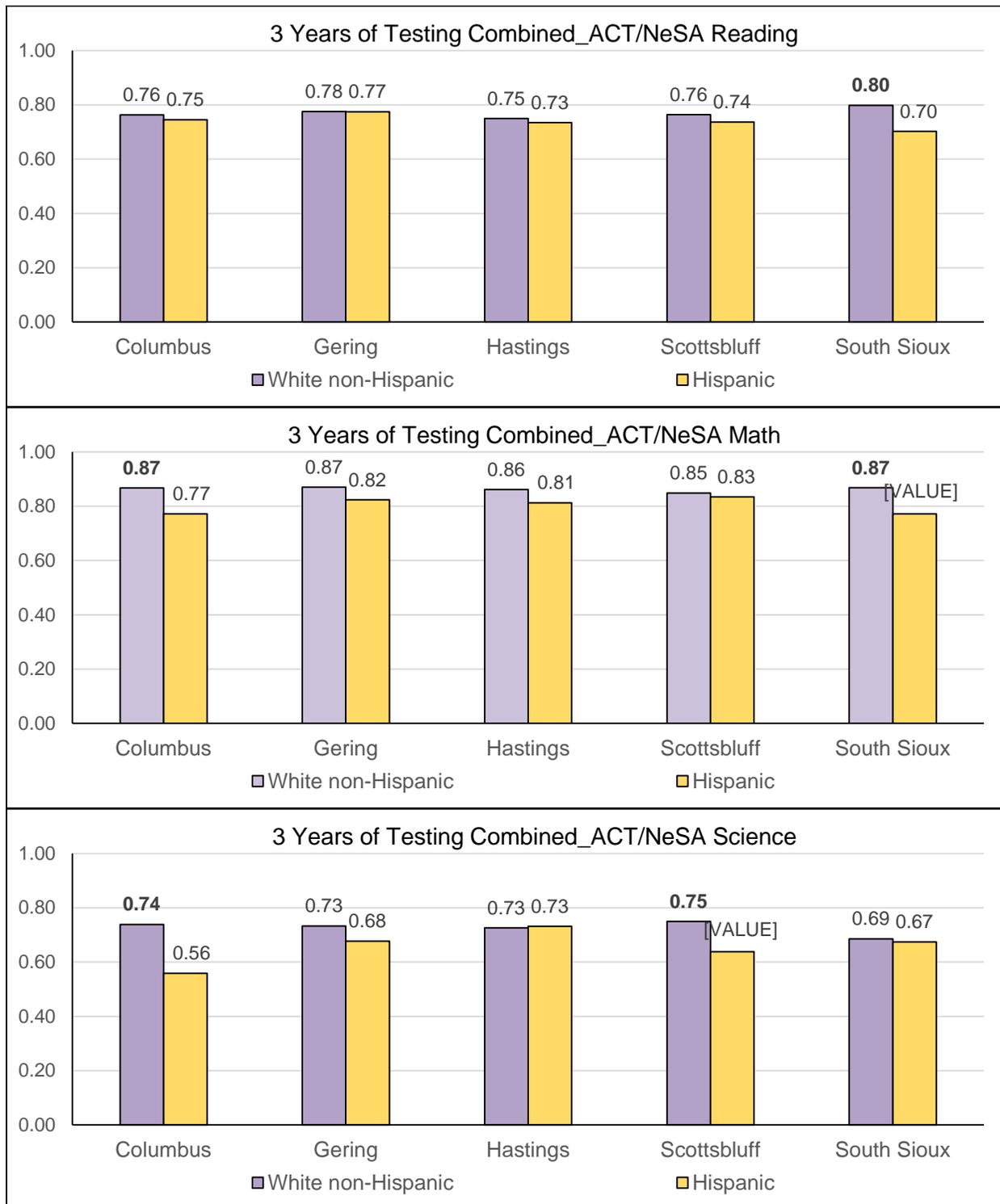
**Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics, and Science Taken in Spring 2012, 2013, and 2014 for Each Racial/Ethnic Group
Three Years of Testing Combined
Lincoln High School and Lincoln North Star High School**



Conclusions: For all of the Pilot schools combined, white non-Hispanics and Asians consistently had significantly higher score correlations than Hispanics for the ACT and NeSA tests in **reading, mathematics, and science** when the three years of testing data were combined into one data set. Based on this analysis, white non-Hispanics and Asians also had higher correlations than black non-Hispanics for the tests in **mathematics** and **science** when all six racial/ethnic groups were compared. For all of the Pilot schools and at the school level as well, there were other significant differences between the racial/ethnic groups when their score correlations were compared. Consequently, the analysis based on the three years of testing combined provided strong evidence that the scores on the ACT and NeSA tests in **reading, mathematics, and science** were not equally correlated for the six groups defined by race/ethnicity.

Figure 4.12

**Score Correlations of the ACT and NeSA Assessments in Reading, Mathematics, and Science Taken in Spring 2012, 2013, and 2014 for Each Racial/Ethnic Group
Three Years of Testing Combined
Columbus, Gering, Hastings, Scottsbluff, and South Sioux High Schools**



Overall Conclusions of the Analysis by Race/Ethnicity

For all of the Pilot schools combined and also at the school level, there were only a few significant changes between 2012 and 2013, or between 2013 and 2014, in the correlations of scores on the ACT and NeSA tests in **reading** and **science**, indicating that these correlations were relatively consistent or stable over the three years of testing. In comparison, there were even fewer significant increases or decreases in the correlations of the scores on the tests in **mathematics**, indicating that the correlations for the math tests were slightly more consistent or stable over the three-year testing period than those calculated for the **reading** and **science** tests.

For the 13 Pilot schools combined and also at the school level, the findings of the correlation analysis indicated that the scores on the ACT and NeSA tests in **reading**, **mathematics**, and **science** were not equally correlated for the six student populations defined by race/ethnicity. Most frequently, white non-Hispanics and Asians had higher correlations of scores on the reading, math, and science tests than Hispanics. In addition, there were other significant, but less consistent, differences that indicated that the scores on the tests were not equally correlated for the six racial/ethnic groups.

See Table A4.1, Table A4.2, Table A4.3, and Table A4.4 in Appendix 4 for the critical value and 95% confidence interval associated with each of the score correlations calculated for the students in the six racial/ethnic groups for the tests in reading, mathematics, and science for all of the Pilot schools combined and each of the 13 Pilot schools for each of the three years of testing and for the three years of testing combined.

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Part 5: Score Correlations for the 24 Student Populations Defined by Gender, Income, and Race/Ethnicity

This section presents the findings of the analysis of the correlation coefficients calculated for the 24 student groups defined by gender, income, and race/ethnicity. As stated earlier in this report, the purpose of this analysis was to determine if the scores on the ACT and NeSA tests in reading, mathematics, and science were equally correlated for the students in all of these gender-income-racial/ethnic groups, or if the tests were more highly correlated for the students in some groups, while they were less correlated for students in other groups.

The analysis of score correlations for the 24 student groups is reported only for all of the 13 Pilot schools combined, due to the low number of minority students in most of the Pilot schools. As explained below, even with all of the 13 Pilot schools combined, four of the 24 groups had to be excluded, resulting in a comparative analysis of 20 groups defined by gender, income, and race/ethnicity.

Numbers of Students Tested

As shown in Table 5.1 beginning on the page after next, even with all of the 13 Pilot schools combined, there were fewer than 10 female or male, non-low-income Native Americans who took the ACT and NeSA assessment as 11th graders in spring 2012, spring 2013, or spring 2014. There also were fewer than 10 female, low-income Native Americans who took the ACT and NeSA tests in 2013. Ten or 11 female, low-income Natives took the tests in 2012 and 2014, and more than 10 male, low-income Natives were tested each of the three years.

The number of Native Americans in the groups with 10 or more students and the corresponding correlation coefficients are reported in Appendix 5. However, since none of these groups met the 20-student minimum for comparing one correlation coefficient to another in 2012, 2013, or 2014, all four groups of Native Americans had to be excluded from the comparative analysis reported in this section.

Large differences in the numbers of students in the remaining 20 groups affected the findings of the comparative analysis of the score correlations calculated for these groups. As reported in Table 5.1, 870 to 1,000 female and male, non-low-income white non-Hispanics took the ACT and NeSA tests in 2012, 2013, or 2014. The next largest groups were female and male, low-income white non-Hispanics with 229 to 325 females and 205 to 300 males in these two groups. The four groups of Hispanics consisted of smaller samples, ranging from 82 to 123 female and male, non-low-income Hispanics and from 141 to 252 female and male, low-income Hispanics.

Compared to whites and Hispanics, there were much smaller samples of Asians, black non-Hispanics, and students of two or more races. As reported in Table 5.1, the number of female or male and non-low-income or low-income students in each of these racial/ethnic groups ranged from only 13 to 67 students. Since only 18 or 19 male, low-income students of two or more races were tested in 2012, this group did not meet the 20-student minimum for comparing one correlation coefficient to another. As a

result, this group was excluded when the score correlations calculated for the other 19 groups in 2012 were compared.

In 2013, the number of students in all of the groups, except for the four groups of Native Americans, exceeded the 20-student minimum for comparing correlation coefficients. Consequently, for 2013, the score correlations for 20 groups could be compared.

In 2014, only 13 or 14 female and male, non-low income black non-Hispanics took the ACT and NeSA tests as 11th graders. Since these two groups did not meet the 20-student minimum for comparing correlation coefficients, they were excluded from the comparative analysis for 2014, resulting in comparisons of 18 of the 24 groups defined by gender, income, and race/ethnicity.

The 18 to 20 groups analyzed for 2012, 2013, and 2014 all met the 20-student minimum for comparing pairs of correlation coefficients. However, a comparison based on two relatively small samples of 20 to 80 students requires a larger difference between the two correlation coefficients to be statistically significant at the 0.05 level of probability than a comparison of two coefficients, at least one of which is based on a sample of 100 or more students. Conversely, a comparison of correlation coefficients based on two relatively large samples of 100 or more students requires a smaller difference between the coefficients to be statistically significant than a comparison in which one or both coefficients are based on small samples of students.

As a result of the relatively small numbers of students in 12 of the 20 groups compared in this analysis, noticeable differences in correlation coefficients frequently were not statistically significant at the 0.05 level of probability. Nevertheless, the samples of students in the 20 groups were of sufficient size and stability to test the hypothesis that the scores on the ACT and NeSA tests in reading, math, and science were equally correlated for the groups of students defined by gender, income, and race/ethnicity.

Table 5.1
Number of Students in Each of the 24 Groups
Defined by Gender, Income, and Race/Ethnicity
Who Took the ACT and NeSA Tests in Reading, Math, and Science by Year
All Pilot Schools Combined

Part A: Number of Students Tested in Reading¹				
Student Group	2012	2013	2014	3 Years Combined
Female, non-low-income white non-Hispanics	970	958	870	2,798
Male, non-low-income white non-Hispanics	997	999	871	2,867
Female, low-income white non-Hispanics	229	233	324	786
Male, low-income white non-Hispanics	208	205	299	712
Female, non-low-income Asians	48	30	33	111
Male, non-low-income Asians	43	39	23	105
Female, low-income Asians	33	30	34	97
Male, low-income Asians	27	35	42	104
Female, non-low-income black non-Hispanics	33	20	14	67
Male, non-low-income black non-Hispanics	20	23	13	56
Female, low-income black non-Hispanics	58	41	59	158
Male, low-income black non-Hispanics	53	39	67	159
Female, non-low-income Hispanics	103	115	84	302
Male, non-low-income Hispanics	123	115	91	329
Female, low-income Hispanics	162	184	252	598
Male, low-income Hispanics	141	148	238	527
Female, non-low-income Native Americans				18
Male, non-low-income Native Americans				14
Female, low-income Native Americans	10		11	
Male, low-income Native Americans	17	12	10	39
Female, non-low-income 2 or more races	35	44	30	109
Male, non-low-income 2 or more races	30	46	41	117
Female, low-income 2 or more races	28	36	45	109
Male, low-income 2 or more races	19	22	39	80
¹ Groups of fewer than 10 students are masked (not reported).				
Continued on the next page.				

Table 5.1, Continued
Number of Students in Each of the 24 Groups
Defined by Gender, Income, and Race/Ethnicity
Who Took the ACT and NeSA Tests in Reading, Math, and Science by Year
All Pilot Schools Combined

Part B: Number of Students Tested in Mathematics¹				
Student Group	2012	2013	2014	3 Years Combined
Female, non-low-income white non-Hispanics	971	958	870	2,799
Male, non-low-income white non-Hispanics	997	1,000	871	2,868
Female, low-income white non-Hispanics	229	234	325	788
Male, low-income white non-Hispanics	208	206	300	714
Female, non-low-income Asians	48	30	33	111
Male, non-low-income Asians	43	39	23	105
Female, low-income Asians	32	31	34	97
Male, low-income Asians	27	36	42	105
Female, non-low-income black non-Hispanics	33	20	14	67
Male, non-low-income black non-Hispanics	21	23	13	57
Female, low-income black non-Hispanics	58	41	59	158
Male, low-income black non-Hispanics	53	39	67	159
Female, non-low-income Hispanics	103	116	82	301
Male, non-low-income Hispanics	123	115	91	329
Female, low-income Hispanics	162	183	252	597
Male, low-income Hispanics	142	148	237	527
Female, non-low-income Native Americans				18
Male, non-low-income Native Americans				14
Female, low-income Native Americans	10		11	
Male, low-income Native Americans	17	12	10	39
Female, non-low-income 2 or more races	35	44	30	109
Male, non-low-income 2 or more races	30	46	41	117
Female, low-income 2 or more races	28	36	45	109
Male, low-income 2 or more races	18	22	39	79
¹ Groups of fewer than 10 students are masked (not reported).				
Continued on the next page.				

Table 5.1, Continued
Number of Students in Each of the 24 Groups
Defined by Gender, Income, and Race/Ethnicity
Who Took the ACT and NeSA Tests in Reading, Math, and Science by Year
All Pilot Schools Combined

Part C: Number of Students Tested in Science ¹				
Student Group	2012	2013	2014	3 Years Combined
Female, non-low-income white non-Hispanics	969	958	870	2,797
Male, non-low-income white non-Hispanics	996	999	870	2,865
Female, low-income white non-Hispanics	229	233	323	785
Male, low-income white non-Hispanics	208	205	298	711
Female, non-low-income Asians	48	30	33	111
Male, non-low-income Asians	42	39	23	104
Female, low-income Asians	32	31	34	97
Male, low-income Asians	27	36	42	105
Female, non-low-income black non-Hispanics	33	20	14	67
Male, non-low-income black non-Hispanics	20	23	13	56
Female, low-income black non-Hispanics	58	41	58	157
Male, low-income black non-Hispanics	53	39	67	159
Female, non-low-income Hispanics	103	115	83	301
Male, non-low-income Hispanics	122	115	91	328
Female, low-income Hispanics	160	184	252	596
Male, low-income Hispanics	142	148	238	528
Female, non-low-income Native Americans				18
Male, non-low-income Native Americans				14
Female, low-income Native Americans	10		11	
Male, low-income Native Americans	17	12	10	39
Female, non-low-income 2 or more races	35	44	30	109
Male, non-low-income 2 or more races	30	46	41	117
Female, low-income 2 or more races	28	36	45	109
Male, low-income 2 or more races	18	22	39	79
¹ Groups of fewer than 10 students are masked (not reported).				

Stability of the Score Correlations for the Groups Defined by Gender, Income, and Race/Ethnicity

Figure 5.1 on the page after next shows the correlation of scores on the ACT and NeSA tests in reading in 2012, 2013, and 2014 for each of the groups defined by gender, income, and race/ethnicity, except for the four groups of Native Americans. Figure 5.2 and Figure 5.3, immediately following Figure 5.1, show the three years of score correlations for the mathematics and sciences tests for the same 20 groups.

As highlighted in Figure 5.1, the correlations of scores on the **reading** tests in 2013 were significantly different from the score correlations in 2012 for only two groups, each with fewer than 45 students. For male, non-low-income Asians, the correlation of scores on the reading tests increased from 0.71 in 2012 to 0.87 in 2013 ($p = 0.045$). For female, low-income Asians, the correlation increased from 0.72 in 2012 to 0.89 in 2013 ($p = 0.053$).

As also highlighted in Figure 5.1, the correlations of scores on the **reading** tests in 2014 were significantly different from the score correlations in 2013 for two different groups, each with fewer than 40 students. For female, non-low-income Asians, the score correlation for the reading tests increased from 0.75 in 2013 to 0.91 in 2014 ($p = 0.031$). For male, low-income students of two or more races, the score correlation decreased from 0.79 in 2013 to the unusually low correlation of 0.37 in 2014.

Figure 5.2 shows that the correlations of scores on the tests in **mathematics** in 2013 were significantly different from the corresponding correlations in 2012 or 2014 for three groups. With sample sizes of 229 in 2012 and 234 in 2013, female, low-income white non-Hispanics had a score correlation of 0.84 in 2013 that was significantly higher than the 0.76 correlation for this group in 2012 ($p = 0.015$). Conversely, the correlation of 0.81 for 20 female, non-low-income black non-Hispanics in 2013 was significantly lower than the correlation of 0.94 for 33 students in this group in 2012 ($p = 0.035$). Similarly, the correlation of 0.62 for 41 female, low-income black non-Hispanics in 2013 was significantly lower than the correlation of 0.81 in 2012 for 58 students in this category ($p = 0.049$). However, in 2014, the correlation for the same group with a sample size of 59 significantly increased to 0.87 ($p = 0.004$).

As shown in Figure 5.3, there were two groups with significant changes in the correlations of their scores on the **science** tests between 2012 and 2013, two other groups with significant changes in their score correlations between 2013 and 2014, and one group with a significant increase in 2013 followed by an equal and significant decrease in 2014. In the latter case of female, non-low-income white non-Hispanics, the score correlation of 0.75 for 958 students tested in 2013 was significantly higher than the 0.68 correlation for 969 students tested in 2012 ($p = 0.003$) and also higher than the 0.68 correlation for 870 students tested in 2014 ($p = 0.004$).

The other significant changes that occurred between 2012 and 2013 were for two groups with very different sample sizes. The correlation of 0.70 for 233 female, low-income white non-Hispanics in 2013 was significantly higher than the correlation of 0.58 for 229 students in this group in 2012 ($p = 0.034$). For female, low-income Asians,

the 0.89 correlation for 31 students tested in 2013 was significantly higher than the 0.59 correlation for 32 students tested in 2012 ($p = 0.004$).

The other significant changes that occurred between 2013 and 2014 were for two additional groups. For male, non-low-income Hispanics, the score correlation of 0.77 for 115 students in 2013 decreased significantly to 0.58 for 91 students tested in 2014 ($p = 0.016$). Conversely, the score correlation of 0.51 for 184 female, low-income Hispanics in 2013 increased significantly to 0.67 for 252 students tested in 2014 ($p = 0.011$).

Between 2012 and 2013 and between 2013 and 2014, there were noticeable differences in the score correlations for at least a few other groups. However, none of these differences were significant at the 0.05 level of probability, due to small sample sizes.

Considered together, the comparisons evidenced in Figure 5.1, Figure 5.2, and Figure 5.3 indicated that the correlations of scores on the ACT and NeSA **science** tests were slightly less consistent or stable between 2012 and 2014 than the correlations for the tests in **reading** and **mathematics**. These comparisons also revealed that female, low-income whites and female, low-income Asians were the only two groups with significant differences between 2012 and 2013 in the correlations of their scores on two of the three pairs of tests. For the other 18 groups, there were no significant changes between 2012 and 2013 or between 2013 and 2014, or a change occurred only in the correlation of scores on the ACT and NeSA tests in one of the three content areas. Consequently, the score correlations evidenced for the 20 groups could be considered sufficiently stable to combine the three years of test scores into one data set for analysis, in addition to separately analyzing each year of test data.

Figure 5.1
Comparison of Score Correlations of the ACT and NeSA Tests in Reading
for 20 of the 24 Groups Defined by Gender, Income, and Race/Ethnicity
Who Took the Tests in Spring 2012, 2013, and 2014
All Pilot Schools Combined

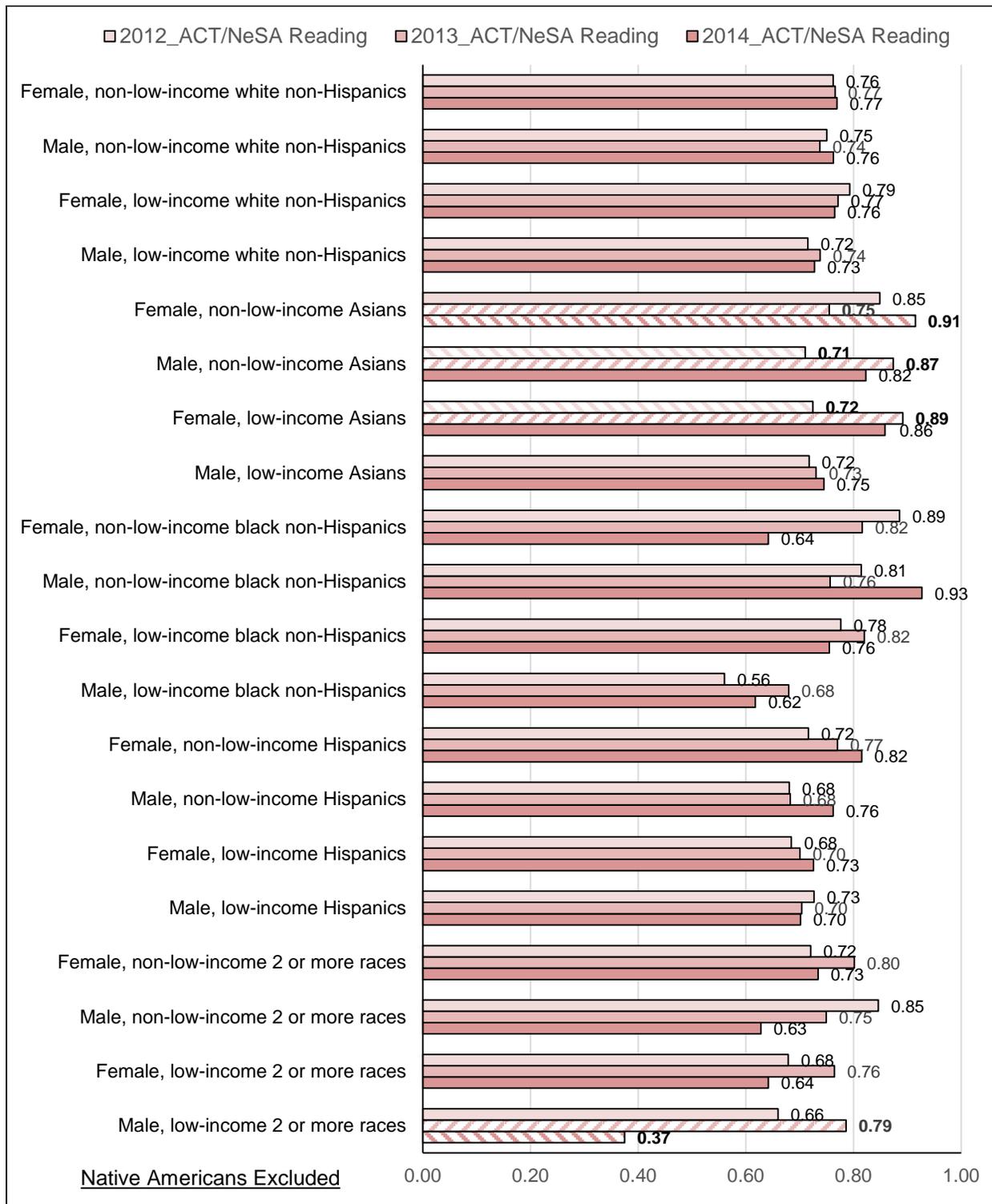


Figure 5.2
Comparison of Score Correlations of the ACT and NeSA Tests in Mathematics
for 20 of the 24 Groups Defined by Gender, Income, and Race/Ethnicity
Who Took the Tests in Spring 2012, 2013, and 2014
All Pilot Schools Combined

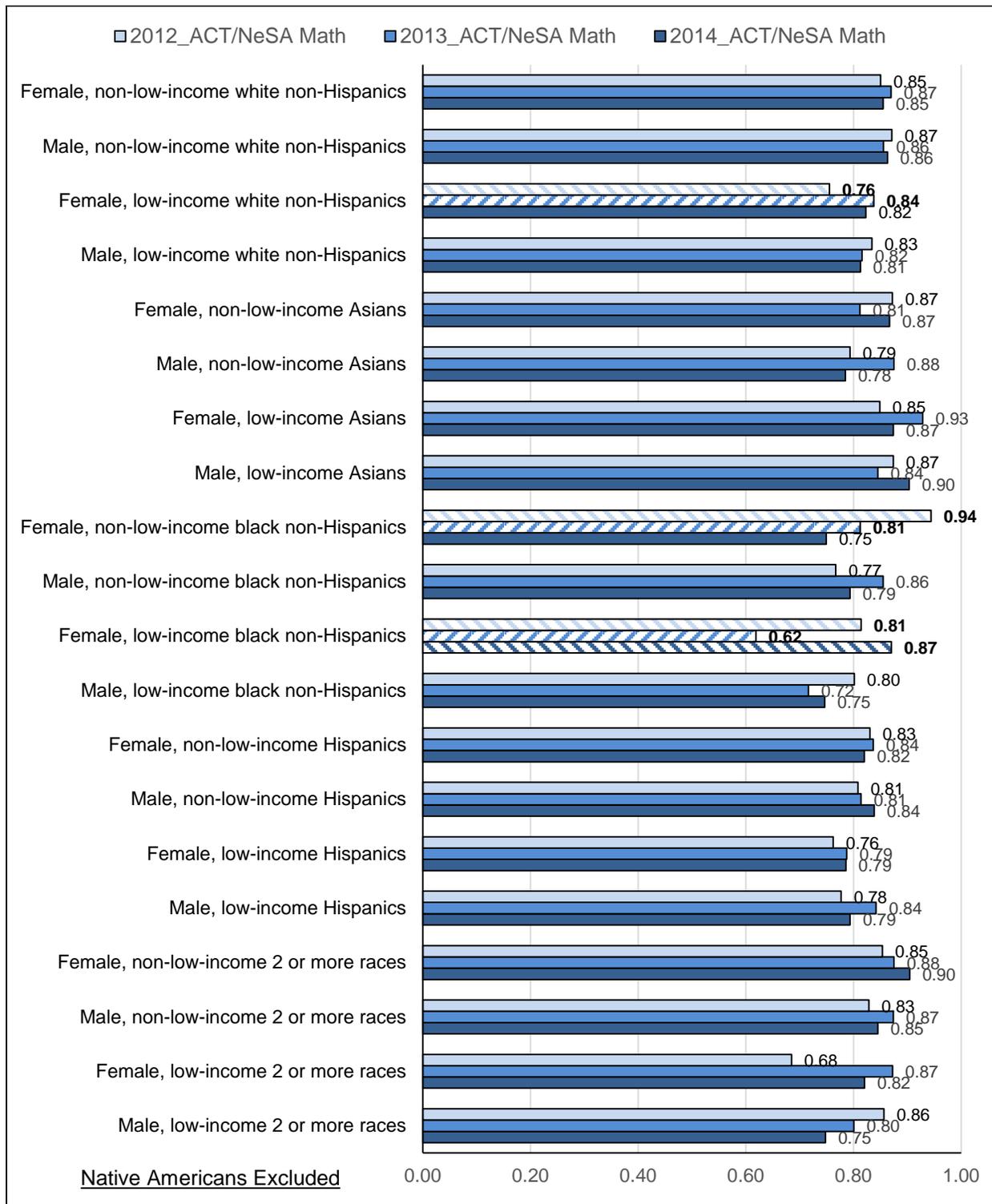
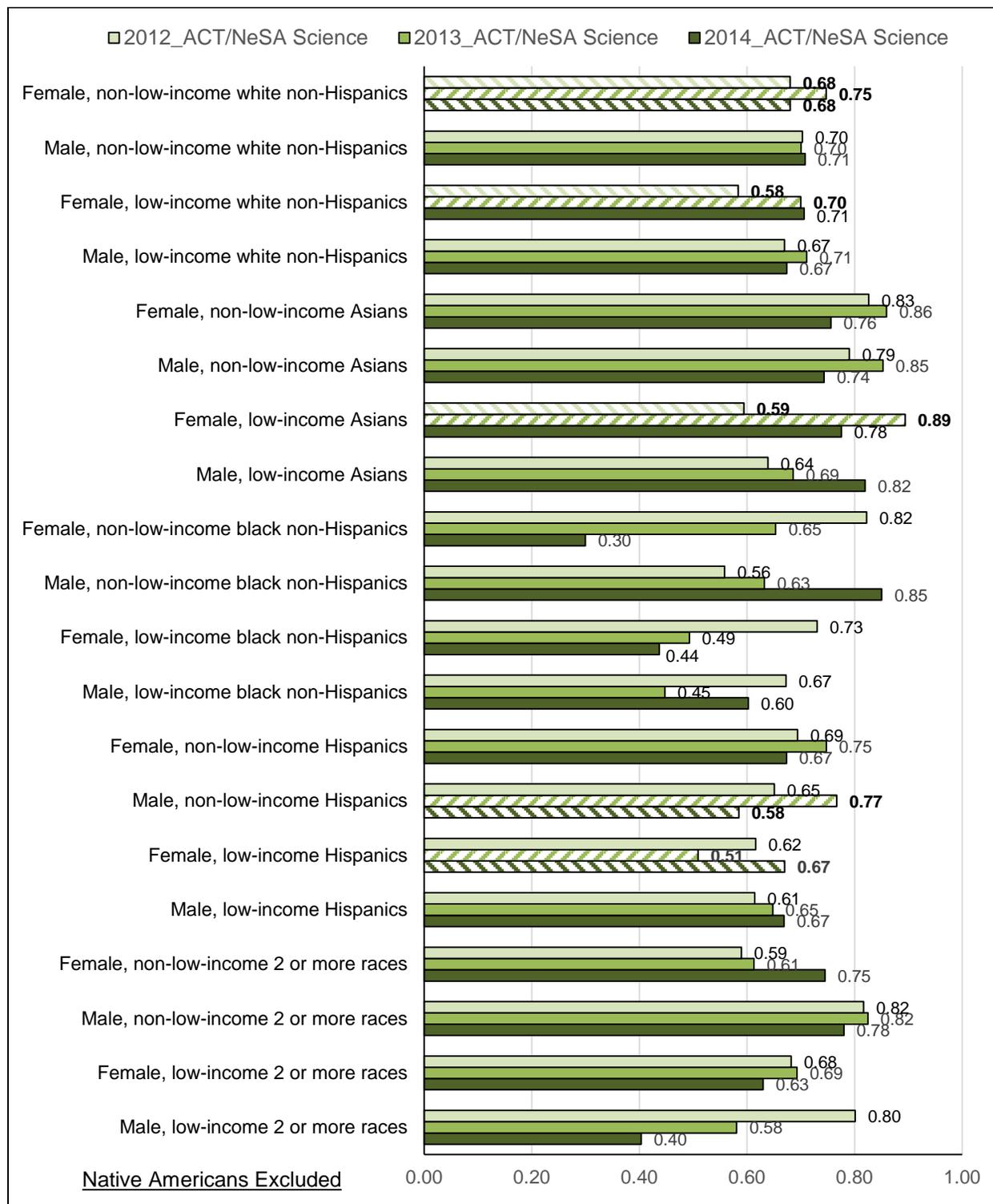


Figure 5.3
Comparison of Score Correlations of the ACT and NeSA Tests in Science
for 20 of the 24 Groups Defined by Gender, Income, and Race/Ethnicity
Who Took the Tests in Spring 2012, 2013, and 2014
All Pilot Schools Combined



Comparison of the Score Correlations Calculated for the Groups Defined by Gender, Income, and Race/Ethnicity: Three Years of Testing Combined

A detailed, comparative analysis was conducted to test the hypothesis that the scores on the ACT and NeSA tests in reading, mathematics, and science were equally correlated for the 24 groups defined by gender, income, and race/ethnicity. The first step in this analysis was to compare the correlation coefficient for each group to the correlation coefficient for each of the other 23 groups. After these comparisons of the correlations of scores on the reading, math, and science tests were completed, the comparisons of the correlation coefficients for groups of fewer than 20 students were excluded from further analysis. As mentioned previously, the excluded groups were the four groups of Native Americans tested in 2012, 2013, and 2014; the male, low-income students of two or more races tested in 2012; and the female and male, non-low-income black non-Hispanics tested in 2014.

After exclusions, there were 19 groups compared for 2012, 20 groups for 2013, and 18 groups for 2014. The detailed analysis of these comparisons is reported in Appendix 6 in order to reduce the length of this section.

As evidenced in Appendix 6, there were at least two groups and as many as 11 groups with score correlations that were significantly higher than the score correlations of two or three other groups, depending on the year and content area of testing. Given these findings, the comparative analysis of the score correlations by year and content area provided substantial evidence that the scores on the ACT and NeSA tests in **reading, mathematics, and science** were not equally correlated in 2012, 2013, or 2014 for the 18 to 20 groups that were compared.

To provide a summary analysis, the three years of testing were combined into a single data set, resulting in larger sample sizes for all of the groups defined by gender, income, and race/ethnicity. Except for the necessary exclusion of the four groups of Native Americans, the combined analysis enabled all of the remaining 20 groups to be compared for each of the three content areas of testing.

Beginning on page 124, Table 5.2 for the **reading** tests, Table 5.3 for the tests in **mathematics**, and Table 5.4 for the **science** tests summarize the findings of the comparative analysis of the correlations calculated for the 20 groups of students with the three years of testing combined. Each table reports the correlation coefficients for the groups in rank order, from the highest to the lowest, for the tests in reading, math, or science. Since sample sizes varied substantially from about 2,800 female or male, non-low-income white non-Hispanics to fewer than 60 male, non-low-income black non-Hispanics, and sample size affects whether a difference between two correlation coefficients is statistically significant, the number of students tested in each of the 20 groups also is reported in each table.

Color codes are used in the tables to visually report the differences between correlation coefficients that were found to be statistically significant at a level of probability of 0.05 or less. For example, Table 5.2 shows that the correlations of scores on the ACT and NeSA reading tests ranged from 0.850 down to 0.532 for all three years

of testing combined. The correlation of 0.850 is highlighted in light orange, and the same color is used to fill the squares next to the 13 correlation coefficients that were significantly lower than the 0.850 correlation. As another example, the next highest correlation of 0.834 is highlighted in light green, and the same color is used to fill the squares next to the eight correlation coefficients that were significantly lower than the 0.849 correlation.

As mentioned above, the correlations of scores on the ACT and NeSA tests in **reading** shown in [Table 5.2](#) ranged from 0.850 for female, non-low-income Asians down to 0.532 for male, low-income students of two or more races. Of the 20 groups compared, 17 had score correlations that were significantly higher than the lowest correlation of 0.532, 12 had score correlations that were significantly higher than the two lowest correlations of 0.532 and 0.633, and six groups had higher score correlations than at least five or as many as 13 other groups.

As illustrated in [Table 5.3](#), the correlations of scores on the tests in **mathematics** ranged from 0.886 for female, low-income Asians down to 0.747 for male, low-income black non-Hispanics. Of the 20 groups compared, 10 had score correlations that were significantly higher than the lowest correlation of 0.747, three had correlations that were significantly higher than two or three of the lowest correlations, and five groups had correlations that were significantly higher than the correlations for at least six or as many as 10 other groups.

Referring to [Table 5.4](#), the correlations of scores on the tests in **science** ranged from 0.820 for male, non-low-income Asians down to 0.562 for male, low-income students of two or more races. In the case of the science tests, nine of the 20 groups had score correlations that were significantly higher than at least two other groups. The three highest correlations of 0.820, 0.814, and 0.801 were significantly higher than 12 to 15 of the lower correlations; and six correlations, ranging from 0.767 down to 0.689, were significantly higher than two to six of the lowest correlations.

For the three years of testing combined, the findings of the comparative analysis clearly indicated that the scores on the ACT and NeSA tests in **reading, mathematics, and science** were not equally correlated for the 20 groups defined by gender, income, and race/ethnicity. For each of the three content areas of testing, at least eight groups had significantly higher score correlations than two or more other groups.

The comparative analysis summarized in [Table 5.2](#), [Table 5.3](#), and [Table 5.4](#) also revealed that the two highest correlations for all three content areas of testing were for Asian students. However, the specific groups of Asians with the highest correlations varied by content area as follows: female, non-low-income and low-income Asians for the reading tests, female and male, low-income Asians for the math tests, and female and male, non-low-income Asians for the science tests.

At the other end of the ranges of score correlations, the lowest correlations were typically, but not always, for male, low-income students. The correlation for male, low-income students of two or more races was the lowest, or the next to the lowest, correlation calculated for the tests in all three subject areas. The correlation for

male, low-income black non-Hispanics was the lowest or second lowest for the reading and math tests and third lowest for the science tests. For the science tests, the second lowest correlation was for female, low-income black non-Hispanics.

Although the highest correlations were consistently for Asians and the lowest correlations were most frequently for male, low-income students of two or more races and male, low-income black non-Hispanics, there were no other groups with consistently higher or lower score correlations than any other group when the three years of testing data were combined or when the data for each year was analyzed separately, as reported in Appendix 6. This lack of overall consistency may be explained, in part, by the fact that the score correlations for all of the groups increased or decreased at least slightly, or varied significantly in some cases, from year to year.

Overall Conclusions of the Analysis by Gender, Income, and Race/Ethnicity

The 24 groups defined by gender, income, and race/ethnicity varied dramatically in sample size, and the four groups of Native Americans had to be excluded from analysis due to insufficient numbers of students in these groups. The correlations of scores on the ACT and NeSA tests in **reading**, **mathematics**, and **science** for the remaining 20 groups increased or decreased at least slightly, and sometimes noticeably or significantly, from one year of testing to the next, further complicating the analysis of the score correlations calculated for each of the three content areas of testing.

Nevertheless, for each of the three content areas of testing, the comparative analysis of score correlations revealed that the correlations of some groups were significantly higher than the correlations for other groups for each year of testing and for the three years of testing combined. Consequently, this analysis clearly indicated the ACT and NeSA tests in **reading**, **mathematics**, and **science** were not equally correlated for the 20 groups defined by gender, income, and race/ethnicity.

The comparative analysis also revealed that relatively small groups of Asians typically had the highest score correlations for each of the three content areas of testing, while the lowest correlations were most frequently for male, low-income students of two or more races or male, low-income black non-Hispanics. No other groups had consistently higher or lower score correlations than any other group when the three years of testing were combined or when each year of testing was analyzed separately. However, for each of the three content areas of testing, eight or more groups had significantly higher correlations than at least two other groups when all three years of data were combined.

See Table A5.1, Table A5.2, Table A5.3, and Table A5.4 in Appendix 5 for the critical value and 95% confidence interval associated with each of the score correlations calculated for the gender, income, and racial/ethnic groups (with 10 or more students) for the tests in reading, mathematics, and science for all of the Pilot schools combined for each of the three years of testing and for the three years of testing combined.

<p style="text-align: center;">Table 5.2 Comparison of Score Correlations of the ACT and NeSA Assessment Tests in <u>Reading</u> for the Groups Defined by Gender, Income, and Race/Ethnicity <u>All Pilot Schools Combined</u></p>						
Reading Tests (Three Years of Testing Combined)						
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order	Code indicating that the color-highlighted r is significantly higher
Female	Non-low-income	Asians	3 Yrs	111	0.850	
Female	Low-income	Asians	3 Yrs	97	0.834	
Female	Non-low-income	Black non-Hispanics	3 Yrs	67	0.823	
Male	Non-low-income	Asians	3 Yrs	105	0.809	
Male	Non-low-income	Black non-Hispanics	3 Yrs	56	0.795	
Female	Low-income	Black non-Hispanics	3 Yrs	158	0.783	
Female	Low-income	White non-Hispanics	3 Yrs	786	0.776	
Female	Non-low-income	Hispanics	3 Yrs	302	0.768	
Female	Non-low-income	White non-Hispanics	3 Yrs	2,798	0.767	
Female	Non-low-income	2 or More Races	3 Yrs	109	0.759	
Male	Non-low-income	White non-Hispanics	3 Yrs	2,867	0.748	
Male	Non-low-income	2 or More Races	3 Yrs	117	0.746	
Male	Low-income	Asians	3 Yrs	104	0.736	
Male	Low-income	White non-Hispanics	3 Yrs	712	0.732	
Female	Low-income	Hispanics	3 Yrs	598	0.711	
Male	Low-income	Hispanics	3 Yrs	527	0.709	
Male	Non-low-income	Hispanics	3 Yrs	329	0.704	
Female	Low-income	2 or More Races	3 Yrs	109	0.702	
Male	Low-income	Black non-Hispanics	3 Yrs	159	0.633	
Male	Low-income	2 or More Races	3 Yrs	80	0.532	

Table 5.3
Comparison of Score Correlations of the ACT and NeSA Assessment Tests
in Mathematics for the Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Mathematics Tests (Three Years of Testing Combined)						
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order	Code indicating that the color-highlighted r is significantly higher
Female	Low-income	Asians	3 Yrs	97	0.886	
Male	Low-income	Asians	3 Yrs	105	0.874	
Female	Non-low-income	Black non-Hispanics	3 Yrs	67	0.872	
Female	Non-low-income	2 or More Races	3 Yrs	109	0.871	
Male	Non-low-income	White non-Hispanics	3 Yrs	2,868	0.860	
Female	Non-low-income	White non-Hispanics	3 Yrs	2,799	0.857	
Female	Non-low-income	Asians	3 Yrs	111	0.849	
Male	Non-low-income	2 or More Races	3 Yrs	117	0.849	
Female	Non-low-income	Hispanics	3 Yrs	301	0.823	
Male	Non-low-income	Black non-Hispanics	3 Yrs	57	0.823	
Male	Non-low-income	Asians	3 Yrs	105	0.822	
Male	Non-low-income	Hispanics	3 Yrs	329	0.819	
Male	Low-income	White non-Hispanics	3 Yrs	714	0.818	
Female	Low-income	White non-Hispanics	3 Yrs	788	0.812	
Female	Low-income	2 or More Races	3 Yrs	109	0.803	
Male	Low-income	Hispanics	3 Yrs	527	0.803	
Female	Low-income	Black non-Hispanics	3 Yrs	158	0.791	
Female	Low-income	Hispanics	3 Yrs	597	0.779	
Male	Low-income	2 or More Races	3 Yrs	79	0.774	
Male	Low-income	Black non-Hispanics	3 Yrs	159	0.747	

Table 5.4 Comparison of Score Correlations of the ACT and NeSA Assessment Tests in <u>Science</u> for the Groups Defined by Gender, Income, and Race/Ethnicity <u>All Pilot Schools Combined</u>						
Science Tests (Three Years of Testing Combined)						
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order	Code indicating that the color-highlighted r is significantly higher
Male	Non-low-income	Asians	3 Yrs	104	0.820	
Female	Non-low-income	Asians	3 Yrs	111	0.814	
Male	Non-low-income	2 or More Races	3 Yrs	117	0.801	
Female	Low-income	Asians	3 Yrs	97	0.767	
Male	Low-income	Asians	3 Yrs	105	0.750	
Female	Non-low-income	Hispanics	3 Yrs	301	0.707	
Female	Non-low-income	White non-Hispanics	3 Yrs	2,797	0.704	
Male	Non-low-income	White non-Hispanics	3 Yrs	2,865	0.703	
Male	Low-income	White non-Hispanics	3 Yrs	711	0.689	
Male	Non-low-income	Hispanics	3 Yrs	328	0.680	
Female	Low-income	White non-Hispanics	3 Yrs	785	0.676	
Female	Low-income	2 or More Races	3 Yrs	109	0.657	
Male	Non-low-income	Black non-Hispanics	3 Yrs	56	0.656	*
Male	Low-income	Hispanics	3 Yrs	528	0.646	
Female	Non-low-income	Black non-Hispanics	3 Yrs	67	0.640	
Female	Low-income	Hispanics	3 Yrs	596	0.619	
Female	Non-low-income	2 or More Races	3 Yrs	109	0.615	
Male	Low-income	Black non-Hispanics	3 Yrs	159	0.593	
Female	Low-income	Black non-Hispanics	3 Yrs	157	0.572	
Male	Low-income	2 or More Races	3 Yrs	79	0.562	
*The correlation of 0.656 was significantly lower than 0.820, but not significantly lower than 0.801.						

Limitations of the Study

A conscientious effort has been made to provide a complete, accurate comparative analysis of the correlations of scores on the ACT and NeSA assessment tests in reading, mathematics, and science taken in spring 2012, spring 2013, and spring 2014. However, like any other research, this study has limitations.

One limitation of this study was the small number of Native Americans who were tested at any of the Pilot schools. With total sample sizes of 40 in 2012, 32 in 2013, and 29 in 2014, only a very limited analysis of the score correlations for Native Americans could be carried out at the school level, and Native Americans had to be excluded completely from the analysis of groups defined by gender, income, and race/ethnicity.

Small samples of Asians, black non-Hispanics, and students of two or more races also were limitations of this study. As a result of small sample sizes, analyses of the correlation coefficients for Asians and black non-Hispanics were limited to two high schools, and students of two or more races had to be excluded completely from the analyses at the school level.

Small samples of Asians, black non-Hispanics, and students of two or more races also complicated the interpretation of the comparative analysis of the correlations calculated for the groups defined by gender, income, and race/ethnicity. As a result of small samples of students in 12 of these groups, noticeable differences in correlation coefficients frequently were not statistically significant, making it difficult to generalize about some of the findings of the comparative analysis.

Another limitation was that there may have been undetected errors in this study. Errors in the data obtained may not have been detected, and errors may have been made unknowingly in the process of analyzing the data or presenting the findings in this progress report.

Finally, probably the most important limitation of this research is that it is only an analysis of the correlations of scores on the ACT and NeSA assessment tests in reading, mathematics, and science. This study does not address the extent to which the ACT and NeSA assessment tests are designed to measure the same standards of achievement, and it provides no information about the distributions of scores on the tests, the reliability or validity of the assessments, student motivation levels, or other factors that may explain why the scores on the tests in all three content areas were not more highly correlated or equally correlated for all of the student populations examined in this study.

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Conclusions

Even though the study described in this report is not without limitations, this research provides a detailed, comprehensive, comparative analysis of the correlation of scores on the ACT and NeSA tests in reading, mathematics, and science taken by 11th graders at the Pilot schools in spring 2012, spring 2013, and spring 2014. The first part of this analysis was conducted to determine the values, stability, and variability of the overall score correlations calculated for each of the 13 Pilot schools, as well as for all of the Pilot schools combined. The remainder of the analysis was conducted to determine if the scores on the ACT and NeSA tests were equally correlated for males and females, low-income and non-low-income students, the six racial/ethnic groups, and the groups defined by gender, income, and race/ethnicity. Following are the major findings and conclusions of the comparative analysis of the correlations calculated at the school level and for the 13 Pilot schools combined.

The Significance and Stability of the Score Correlations

- Of the 1,690 correlation coefficients reported in this study, 1,669 (98.8%) were statistically significant at the 0.05 level of probability, meaning that there was a low probability that these correlations occurred only by chance. The remaining 21 correlation coefficients were calculated for minority groups that ranged in size from only 10 to 29 students.
- The correlation coefficients calculated for each of the Pilot schools or for all of the schools combined typically varied at least slightly, and sometimes noticeably, from one year to the next. However, there were relatively few statistically significant increases or decreases in these correlations between 2012 and 2013 or between 2013 and 2014. Based on these findings, the score correlations for the ACT and NeSA tests in reading, mathematics, and science were sufficiently stable to combine the three years of testing for the purposes of summary analysis. In addition, a separate correlation analysis was conducted for each of the three years of testing.

Overall Score Correlations

- Overall score correlations were calculated for each of the 13 Pilot schools and for all of the schools combined using the scores for all of the students in each of these school populations.
- Based on the three years of testing combined, the overall score correlations for all of the Pilot schools combined were **0.78** for the tests in **reading**, **0.86** for the tests in **mathematics**, and **0.73** for the **science** tests.
- For each of the three years of testing, as well as for the three years combined, the overall score correlations for the tests in **mathematics** were consistently and significantly higher than the overall score correlations for the **reading** and **science** tests for all of the Pilot schools combined.

- At the school level, the overall score correlations for the tests in **mathematics** were significantly higher than the correlations for the **reading** and **science** tests in all but a few cases.
 - When the three years of test data were analyzed separately for each of the Pilot schools, the overall score correlations for the tests in **mathematics** were significantly higher than the comparable correlations for the **reading** and **science** tests, except in the cases of two or three schools.
 - When the three years of testing were combined, the overall score correlations for the tests in **mathematics** were consistently and significantly higher than those for the **reading** and **science** tests at each of the Pilot schools.
- For all of the Pilot schools combined, the overall score correlations for the **reading** tests were consistently and significantly higher than the overall score correlations for the **science** tests over the three years of testing.
- At the school level, the overall score correlations of the **reading** tests were consistently higher, but not always significantly higher, than the overall score correlations for the **science** tests.
- With the three years of test data combined, the ranges of the overall score correlations for the 13 Pilot schools were as follows:

Reading	0.74 to 0.80	(a range of 0.06)
Mathematics	0.83 to 0.88	(a range of 0.05)
Science	0.67 to 0.77	(a range of 0.10)

Based on these ranges and the ranges evidenced for each year of testing, the scores on the ACT and NeSA tests in **mathematics** were more consistently correlated, as well as more highly correlated, than the tests in **reading** and **science** across all of the Pilot schools.

- The comparative analysis of the overall score correlations at the school level also revealed that there definitely were schools with significantly higher or lower overall score correlations than other schools participating in the ACT Pilot Project. However, there were no schools with consistently higher or lower overall score correlations than other schools. Instead, the schools with the highest or lowest overall correlations varied, depending on the content or year of testing.

Analysis by Gender

- In general, the scores on the tests in **mathematics** and **science** were about equally correlated for females and males, while the scores on the tests in **reading** were not equally correlated for the two gender groups.
 - For the Pilot schools combined, the correlations for the tests in **mathematics** and **science** were equal or almost equal for females and males.

- At the school level, the score correlations on the tests in **mathematics** and **science** were noticeably or significantly higher for males as often as they were significantly higher for females.
- For all of the Pilot schools combined, the score correlations for the **reading** tests were significantly higher for females than for males for each of the three years of testing and for the three years of testing combined.
- At the school level, the correlation of scores on the **reading** tests also tended to be higher for females than males, but significant differences between the two gender groups were evidenced for only two or three schools, depending on the year of testing.

Analysis by Income

- Overall, the scores on the ACT and NeSA tests in **reading, mathematics, and science** were not equally correlated for non-low-income and low-income students.
 - For all of the Pilot schools combined, the scores on the tests in **reading, mathematics, and science** were more highly correlated for non-low-income students than for low-income students, except in the cases of the reading tests in 2013 and the science tests in 2014. For the three years of testing combined, the score correlations for non-low-income students were significantly higher than those for low-income students.
 - At the school level, the correlations of scores on the **reading, mathematics, and science** tests also tended to be higher for non-low-income students than for low-income students at the majority of the Pilot schools, except in the cases of the reading tests in 2013 and the science tests in 2014. However, the differences between the score correlations of the two income groups were usually not statistically significant at the school level.

Analysis by Race/Ethnicity

- For the 13 Pilot schools combined and also at the school level, the scores on the ACT and NeSA tests in **reading, mathematics, and science** were not equally correlated for the six student populations defined by race/ethnicity.
 - Most frequently, white non-Hispanics and Asians had higher correlations of scores on the reading, math, and science tests than Hispanics.
 - In addition, there were other significant, but less consistent, differences that indicated that the scores on the tests were not equally correlated for the six racial/ethnic groups. For example, for all of the Pilot schools combined, Hispanics, Native Americans, and students of two or more races had significantly higher correlations of scores on the tests in mathematics than black non-Hispanics in 2013 and 2014, but not in 2012.

Analysis by Gender, Income, and Race/Ethnicity

- Analyzed only for all of the Pilot schools combined, the scores on the tests in **reading**, **mathematics**, and **science** were not equally correlated for the 20 groups defined by gender, income, and race/ethnicity.
 - Relatively small groups of Asians typically had the highest score correlations for each of the three content areas of testing, while the lowest correlations were most frequently for male, low-income students of two or more races or male, low-income black non-Hispanics.
 - No other groups had consistently higher or lower score correlations than any other group when the three years of testing were combined or when each year of testing was analyzed separately.
 - However, when the three years of testing were combined for each of the three content areas of testing, the score correlations for at least eight groups were significantly higher than the score correlations for two or more groups.

Overall Conclusions

In general, this study provides substantial evidence that the scores on the ACT and NeSA assessment tests in **reading**, **mathematics**, and **science** administered to 11th graders at the Pilot schools in 2012, 2013, and 2014 were significantly, but not equally correlated. At the school level, as well as for the 13 Pilot schools combined, the scores on the tests in **mathematics** were more highly correlated than the scores on the tests in **reading** and **science**. Also, the scores on the **reading** tests were more highly correlated than the scores on the **science** tests, although not always significantly more correlated at the school level.

The statistical analysis described in this report also provided substantial evidence that the scores on the ACT and NeSA tests in **reading**, **mathematics**, and **science** were not equally correlated for females and males, low-income and non-low-income students, the students in each of the six racial/ethnic groups, or the students in the groups defined by gender, income, and race/ethnicity. Furthermore, the score correlations for all three content areas of testing varied to some degree, and sometimes significantly, from one Pilot school to another over the three years of testing.

Overall, the scores on the ACT and NeSA tests in **reading**, **mathematics**, and **science** were definitely correlated. Whether they are sufficiently correlated to substitute the ACT for the NeSA assessment that 11th graders are currently required to take is debatable, since there is no general standard in the field of testing and measurement for what constitutes a “sufficient” correlation. Without a definitive standard, the findings of this study must be considered in the context of other information that will be important in deciding at the state level whether to substitute the ACT for the NeSA assessment.

Appendix 1

Total Numbers of Students Tested, Overall Correlation Coefficients, Critical Values, and Confidence Intervals of the Overall Score Correlations of the ACT and NeSA Assessment Tests in Reading, Math, and Science by School

Table A1.1
Overall Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012

Part A: Reading Tests (Spring 2012)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2012	All Schools	3,400	0.779	0.034	0.766	0.792
2012	Alliance	106	0.821	0.191	0.747	0.875
2012	Columbus	246	0.780	0.125	0.726	0.825
2012	Gering	116	0.817	0.182	0.746	0.870
2012	Hastings	237	0.773	0.127	0.716	0.820
2012	Lincoln East	322	0.787	0.109	0.741	0.825
2012	Lincoln High	389	0.769	0.099	0.725	0.806
2012	Lincoln NE	300	0.786	0.113	0.739	0.826
2012	Lincoln SE	415	0.775	0.096	0.734	0.811
2012	Lincoln N Star	360	0.754	0.103	0.705	0.795
2012	Lincoln SW	415	0.747	0.096	0.701	0.787
2012	Scottsbluff	182	0.790	0.146	0.728	0.839
2012	Sidney	67	0.723	0.240	0.584	0.821
2012	South Sioux	245	0.755	0.125	0.696	0.804
Part B: Mathematics Tests (Spring 2012)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2012	All Schools	3,401	0.864	0.034	0.855	0.872
2012	Alliance	106	0.883	0.191	0.832	0.919
2012	Columbus	247	0.875	0.125	0.842	0.902
2012	Gering	116	0.894	0.182	0.850	0.925
2012	Hastings	237	0.887	0.127	0.857	0.912
2012	Lincoln East	322	0.894	0.109	0.870	0.914
2012	Lincoln High	389	0.846	0.099	0.815	0.872
2012	Lincoln NE	300	0.875	0.113	0.846	0.899
2012	Lincoln SE	416	0.870	0.096	0.845	0.892
2012	Lincoln N Star	360	0.857	0.103	0.826	0.882
2012	Lincoln SW	415	0.873	0.096	0.848	0.894
2012	Scottsbluff	182	0.886	0.146	0.850	0.914
2012	Sidney	67	0.830	0.240	0.737	0.892
2012	South Sioux	244	0.839	0.126	0.797	0.872
¹ The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.						
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Table A1.1, Continued
Overall Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012

Part C: Science Tests (Spring 2012)

Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2012	All Schools	3,393	0.726	0.034	0.709	0.741
2012	Alliance	106	0.756	0.191	0.660	0.827
2012	Columbus	246	0.699	0.125	0.628	0.758
2012	Gering	116	0.704	0.182	0.598	0.785
2012	Hastings	237	0.745	0.127	0.683	0.797
2012	Lincoln East	322	0.753	0.109	0.701	0.797
2012	Lincoln High	388	0.748	0.100	0.700	0.789
2012	Lincoln NE	298	0.775	0.114	0.725	0.816
2012	Lincoln SE	413	0.712	0.097	0.661	0.757
2012	Lincoln N Star	359	0.739	0.104	0.688	0.782
2012	Lincoln SW	415	0.642	0.096	0.582	0.695
2012	Scottsbluff	182	0.765	0.146	0.698	0.820
2012	Sidney	67	0.732	0.240	0.596	0.827
2012	South Sioux	244	0.756	0.126	0.696	0.805

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A1.2
Overall Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013

Part A: Reading Tests (Spring 2013)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2013	All Schools	3,394	0.778	0.034	0.764	0.791
2013	Alliance	125	0.812	0.176	0.743	0.865
2013	Columbus	217	0.794	0.133	0.739	0.839
2013	Gering	154	0.758	0.158	0.681	0.818
2013	Hastings	209	0.769	0.136	0.707	0.819
2013	Lincoln East	344	0.758	0.106	0.709	0.800
2013	Lincoln High	309	0.843	0.112	0.807	0.872
2013	Lincoln NE	309	0.758	0.112	0.707	0.802
2013	Lincoln SE	374	0.783	0.101	0.740	0.819
2013	Lincoln N Star	403	0.754	0.098	0.708	0.793
2013	Lincoln SW	437	0.737	0.094	0.691	0.777
2013	Scottsbluff	173	0.777	0.149	0.710	0.830
2013	Sidney	84	0.851	0.215	0.779	0.901
2013	South Sioux	256	0.723	0.123	0.659	0.777
Part B: Mathematics Tests (Spring 2013)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2013	All Schools	3,399	0.866	0.034	0.858	0.875
2013	Alliance	125	0.889	0.176	0.845	0.921
2013	Columbus	216	0.904	0.134	0.876	0.925
2013	Gering	155	0.871	0.158	0.826	0.904
2013	Hastings	208	0.862	0.136	0.822	0.893
2013	Lincoln East	344	0.866	0.106	0.836	0.890
2013	Lincoln High	311	0.902	0.111	0.879	0.921
2013	Lincoln NE	309	0.836	0.112	0.799	0.867
2013	Lincoln SE	378	0.862	0.101	0.834	0.886
2013	Lincoln N Star	403	0.848	0.098	0.819	0.874
2013	Lincoln SW	437	0.853	0.094	0.825	0.876
2013	Scottsbluff	173	0.822	0.149	0.767	0.865
2013	Sidney	84	0.861	0.215	0.793	0.908
2013	South Sioux	256	0.846	0.123	0.807	0.878
¹ The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.						
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Table A1.2, Continued
Overall Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013

Part C: Science Tests (Spring 2013)

Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2013	All Schools	3,396	0.748	0.034	0.733	0.763
2013	Alliance	125	0.781	0.176	0.702	0.842
2013	Columbus	217	0.763	0.133	0.701	0.814
2013	Gering	154	0.765	0.158	0.690	0.823
2013	Hastings	209	0.738	0.136	0.669	0.794
2013	Lincoln East	344	0.726	0.106	0.671	0.772
2013	Lincoln High	311	0.799	0.111	0.755	0.836
2013	Lincoln NE	309	0.701	0.112	0.639	0.754
2013	Lincoln SE	374	0.729	0.101	0.678	0.773
2013	Lincoln N Star	403	0.742	0.098	0.695	0.783
2013	Lincoln SW	437	0.731	0.094	0.684	0.772
2013	Scottsbluff	173	0.747	0.149	0.672	0.806
2013	Sidney	84	0.784	0.215	0.685	0.855
2013	South Sioux	256	0.718	0.123	0.652	0.772

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A1.3
Overall Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014

Part A: Reading Tests (Spring 2014)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2014	All Schools	3,498	0.787	0.033	0.774	0.799
2014	Alliance	114	0.731	0.184	0.632	0.807
2014	Columbus	291	0.794	0.115	0.747	0.833
2014	Gering	147	0.812	0.162	0.748	0.861
2014	Hastings	224	0.743	0.131	0.678	0.796
2014	Lincoln East	305	0.775	0.112	0.726	0.816
2014	Lincoln High	314	0.801	0.111	0.757	0.837
2014	Lincoln NE	313	0.758	0.111	0.707	0.802
2014	Lincoln SE	493	0.762	0.088	0.722	0.796
2014	Lincoln N Star	375	0.772	0.101	0.727	0.810
2014	Lincoln SW	401	0.755	0.098	0.709	0.794
2014	Scottsbluff	165	0.772	0.153	0.702	0.827
2014	Sidney	76	0.836	0.226	0.752	0.893
2014	South Sioux	280	0.785	0.117	0.736	0.827
Part B: Mathematics Tests (Spring 2014)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2014	All Schools	3,497	0.863	0.033	0.854	0.871
2014	Alliance	114	0.882	0.184	0.834	0.917
2014	Columbus	289	0.839	0.115	0.802	0.870
2014	Gering	146	0.878	0.163	0.834	0.910
2014	Hastings	224	0.827	0.131	0.781	0.865
2014	Lincoln East	305	0.862	0.112	0.830	0.888
2014	Lincoln High	314	0.882	0.111	0.855	0.904
2014	Lincoln NE	315	0.864	0.111	0.833	0.890
2014	Lincoln SE	493	0.847	0.088	0.820	0.870
2014	Lincoln N Star	375	0.862	0.101	0.834	0.886
2014	Lincoln SW	402	0.859	0.098	0.831	0.883
2014	Scottsbluff	165	0.882	0.153	0.843	0.912
2014	Sidney	75	0.871	0.227	0.803	0.917
2014	South Sioux	280	0.815	0.117	0.772	0.851
¹ The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.						
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Table A1.3, Continued
Overall Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014

Part C: Science Tests (Spring 2014)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
2014	All Schools	3,493	0.728	0.033	0.712	0.744
2014	Alliance	114	0.698	0.184	0.590	0.781
2014	Columbus	291	0.734	0.115	0.676	0.783
2014	Gering	146	0.728	0.163	0.641	0.796
2014	Hastings	224	0.724	0.131	0.655	0.781
2014	Lincoln East	305	0.755	0.112	0.703	0.800
2014	Lincoln High	313	0.762	0.111	0.711	0.805
2014	Lincoln NE	312	0.733	0.111	0.676	0.780
2014	Lincoln SE	493	0.706	0.088	0.659	0.748
2014	Lincoln N Star	375	0.709	0.101	0.655	0.756
2014	Lincoln SW	400	0.656	0.098	0.596	0.709
2014	Scottsbluff	165	0.735	0.153	0.655	0.798
2014	Sidney	75	0.706	0.227	0.570	0.804
2014	South Sioux	280	0.675	0.117	0.606	0.734

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A1.4
Overall Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined

Part A: Reading Tests (3 Years Combined)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
3 Years	All Schools	10,292	0.781	0.019	0.774	0.789
3 Years	Alliance	345	0.792	0.106	0.750	0.829
3 Years	Columbus	754	0.786	0.071	0.757	0.812
3 Years	Gering	417	0.790	0.096	0.751	0.823
3 Years	Hastings	670	0.759	0.076	0.725	0.790
3 Years	Lincoln East	971	0.773	0.063	0.747	0.797
3 Years	Lincoln High	1,012	0.801	0.062	0.778	0.822
3 Years	Lincoln NE	922	0.767	0.065	0.739	0.792
3 Years	Lincoln SE	1,282	0.771	0.055	0.748	0.792
3 Years	Lincoln N Star	1,138	0.760	0.058	0.734	0.783
3 Years	Lincoln SW	1,253	0.743	0.055	0.718	0.767
3 Years	Scottsbluff	520	0.780	0.086	0.744	0.811
3 Years	Sidney	227	0.800	0.130	0.748	0.843
3 Years	South Sioux	781	0.756	0.070	0.724	0.785
Part B: Mathematics Tests (3 Years Combined)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
3 Years	All Schools	10,297	0.863	0.019	0.857	0.867
3 Years	Alliance	345	0.884	0.106	0.859	0.905
3 Years	Columbus	752	0.865	0.071	0.845	0.882
3 Years	Gering	417	0.868	0.096	0.842	0.890
3 Years	Hastings	669	0.857	0.076	0.835	0.876
3 Years	Lincoln East	971	0.872	0.063	0.856	0.886
3 Years	Lincoln High	1,014	0.869	0.062	0.853	0.883
3 Years	Lincoln NE	924	0.856	0.064	0.838	0.873
3 Years	Lincoln SE	1,287	0.853	0.055	0.838	0.868
3 Years	Lincoln N Star	1,138	0.853	0.058	0.836	0.868
3 Years	Lincoln SW	1,254	0.852	0.055	0.836	0.867
3 Years	Scottsbluff	520	0.860	0.086	0.835	0.880
3 Years	Sidney	226	0.851	0.131	0.810	0.883
3 Years	South Sioux	780	0.827	0.070	0.804	0.848
¹ The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.						
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Table A1.4, Continued
Overall Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined

Part C: Science Tests (3 Years Combined)						
Year Tested	School Population	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
3 Years	All Schools	10,282	0.734	0.019	0.724	0.742
3 Years	Alliance	345	0.740	0.106	0.688	0.784
3 Years	Columbus	754	0.732	0.071	0.697	0.763
3 Years	Gering	416	0.736	0.096	0.689	0.778
3 Years	Hastings	670	0.736	0.076	0.699	0.769
3 Years	Lincoln East	971	0.741	0.063	0.711	0.768
3 Years	Lincoln High	1,012	0.768	0.062	0.741	0.792
3 Years	Lincoln NE	919	0.731	0.065	0.699	0.760
3 Years	Lincoln SE	1,280	0.714	0.055	0.686	0.739
3 Years	Lincoln N Star	1,137	0.727	0.058	0.699	0.754
3 Years	Lincoln SW	1,252	0.673	0.055	0.642	0.702
3 Years	Scottsbluff	520	0.747	0.086	0.707	0.783
3 Years	Sidney	226	0.751	0.131	0.688	0.803
3 Years	South Sioux	780	0.708	0.070	0.671	0.741

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Appendix 2

Numbers of Students Tested, Correlation Coefficients, Critical Values, and Confidence Intervals of the Score Correlations of the ACT and NeSA Assessment Tests in Reading, Math, and Science for Female and Male Students by School

Table A2.1
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Female and Male Students

Part A: Reading Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,716	0.795	0.047	0.777	0.812
	Male	1,684	0.762	0.048	0.741	0.781
Alliance	Female	54	0.809	0.268	0.691	0.885
	Male	52	0.832	0.273	0.723	0.901
Columbus	Female	109	0.766	0.188	0.675	0.834
	Male	137	0.796	0.168	0.725	0.850
Gering	Female	61	0.848	0.252	0.758	0.906
	Male	55	0.803	0.266	0.683	0.881
Hastings	Female	125	0.732	0.176	0.639	0.804
	Male	112	0.812	0.186	0.738	0.867
Lincoln East	Female	173	0.775	0.149	0.707	0.828
	Male	149	0.796	0.161	0.728	0.848
Lincoln High	Female	209	0.789	0.136	0.732	0.836
	Male	180	0.748	0.146	0.676	0.806
Lincoln NE	Female	144	0.798	0.164	0.729	0.850
	Male	156	0.769	0.157	0.696	0.826
Lincoln SE	Female	201	0.814	0.138	0.762	0.856
	Male	214	0.735	0.134	0.666	0.791
Lincoln N Star	Female	191	0.792	0.142	0.732	0.839
	Male	169	0.699	0.151	0.612	0.769
Lincoln SW	Female	197	0.748	0.140	0.679	0.803
	Male	218	0.749	0.133	0.684	0.802
Scottsbluff	Female	93	0.834	0.204	0.759	0.887
	Male	89	0.753	0.208	0.647	0.831
Sidney	Female	38	0.859	0.320	0.744	0.925
	Male	29	0.539	0.367	0.215	0.756
South Sioux	Female	121	0.785	0.179	0.705	0.845
	Male	124	0.730	0.176	0.636	0.803

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A2.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Female and Male Students

Part B: Mathematics Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,716	0.858	0.047	0.845	0.870
	Male	1,685	0.870	0.048	0.858	0.881
Alliance	Female	54	0.903	0.268	0.839	0.943
	Male	52	0.865	0.273	0.776	0.921
Columbus	Female	109	0.859	0.188	0.800	0.901
	Male	138	0.888	0.167	0.846	0.918
Gering	Female	61	0.869	0.252	0.790	0.920
	Male	55	0.921	0.266	0.867	0.953
Hastings	Female	125	0.866	0.176	0.814	0.904
	Male	112	0.905	0.186	0.865	0.934
Lincoln East	Female	173	0.889	0.149	0.853	0.917
	Male	149	0.905	0.161	0.871	0.931
Lincoln High	Female	209	0.818	0.136	0.767	0.858
	Male	180	0.880	0.146	0.842	0.909
Lincoln NE	Female	145	0.860	0.163	0.810	0.897
	Male	155	0.887	0.158	0.848	0.916
Lincoln SE	Female	201	0.877	0.138	0.841	0.906
	Male	215	0.869	0.134	0.831	0.898
Lincoln N Star	Female	191	0.869	0.142	0.829	0.900
	Male	169	0.844	0.151	0.795	0.883
Lincoln SW	Female	197	0.867	0.140	0.827	0.898
	Male	218	0.878	0.133	0.843	0.905
Scottsbluff	Female	93	0.921	0.204	0.882	0.947
	Male	89	0.856	0.208	0.789	0.903
Sidney	Female	38	0.831	0.320	0.696	0.909
	Male	29	0.834	0.367	0.674	0.920
South Sioux	Female	120	0.814	0.179	0.744	0.867
	Male	124	0.863	0.176	0.811	0.902

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A2.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Female and Male Students

Part C: Science Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,712	0.723	0.047	0.699	0.745
	Male	1,681	0.729	0.048	0.705	0.750
Alliance	Female	54	0.766	0.268	0.627	0.858
	Male	52	0.750	0.273	0.601	0.849
Columbus	Female	108	0.723	0.189	0.618	0.802
	Male	138	0.689	0.167	0.590	0.768
Gering	Female	61	0.745	0.252	0.607	0.839
	Male	55	0.703	0.266	0.538	0.816
Hastings	Female	125	0.763	0.176	0.678	0.827
	Male	112	0.737	0.186	0.639	0.812
Lincoln East	Female	173	0.780	0.149	0.714	0.832
	Male	149	0.729	0.161	0.644	0.797
Lincoln High	Female	208	0.698	0.136	0.621	0.762
	Male	180	0.791	0.146	0.729	0.840
Lincoln NE	Female	143	0.758	0.164	0.679	0.820
	Male	155	0.796	0.158	0.730	0.847
Lincoln SE	Female	201	0.676	0.138	0.593	0.745
	Male	212	0.740	0.135	0.673	0.796
Lincoln N Star	Female	191	0.747	0.142	0.676	0.803
	Male	168	0.732	0.151	0.653	0.795
Lincoln SW	Female	197	0.607	0.140	0.510	0.688
	Male	218	0.662	0.133	0.580	0.731
Scottsbluff	Female	93	0.760	0.204	0.658	0.834
	Male	89	0.765	0.208	0.662	0.839
Sidney	Female	38	0.761	0.320	0.583	0.869
	Male	29	0.708	0.367	0.462	0.853
South Sioux	Female	120	0.706	0.179	0.603	0.785
	Male	124	0.798	0.176	0.724	0.854

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A2.2
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Female and Male Students

Part A: Reading Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,706	0.790	0.047	0.772	0.808
	Male	1,688	0.764	0.048	0.744	0.784
Alliance	Female	63	0.808	0.248	0.701	0.880
	Male	62	0.820	0.250	0.717	0.888
Columbus	Female	103	0.801	0.194	0.719	0.861
	Male	114	0.790	0.184	0.709	0.850
Gering	Female	74	0.767	0.229	0.653	0.847
	Male	80	0.755	0.220	0.642	0.836
Hastings	Female	96	0.779	0.201	0.686	0.847
	Male	113	0.758	0.185	0.666	0.827
Lincoln East	Female	167	0.767	0.152	0.697	0.823
	Male	177	0.749	0.148	0.677	0.808
Lincoln High	Female	164	0.853	0.153	0.805	0.890
	Male	145	0.821	0.163	0.760	0.868
Lincoln NE	Female	149	0.778	0.161	0.706	0.835
	Male	160	0.742	0.155	0.663	0.805
Lincoln SE	Female	194	0.799	0.141	0.741	0.844
	Male	180	0.767	0.146	0.699	0.821
Lincoln N Star	Female	199	0.769	0.139	0.705	0.820
	Male	204	0.737	0.137	0.667	0.794
Lincoln SW	Female	231	0.707	0.129	0.636	0.766
	Male	206	0.761	0.137	0.697	0.813
Scottsbluff	Female	95	0.809	0.202	0.726	0.869
	Male	78	0.742	0.223	0.622	0.828
Sidney	Female	42	0.907	0.304	0.832	0.949
	Male	42	0.791	0.304	0.640	0.882
South Sioux	Female	129	0.747	0.173	0.660	0.815
	Male	127	0.696	0.174	0.594	0.776

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A2.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Female and Male Students

Part B: Mathematics Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,708	0.872	0.047	0.860	0.883
	Male	1,691	0.863	0.048	0.850	0.874
Alliance	Female	63	0.820	0.248	0.719	0.888
	Male	62	0.920	0.250	0.870	0.951
Columbus	Female	103	0.905	0.194	0.862	0.935
	Male	113	0.898	0.185	0.855	0.929
Gering	Female	74	0.874	0.229	0.806	0.919
	Male	81	0.870	0.219	0.804	0.914
Hastings	Female	95	0.881	0.202	0.826	0.919
	Male	113	0.846	0.185	0.784	0.891
Lincoln East	Female	167	0.852	0.152	0.804	0.889
	Male	177	0.878	0.148	0.839	0.908
Lincoln High	Female	165	0.891	0.153	0.855	0.919
	Male	146	0.916	0.163	0.885	0.938
Lincoln NE	Female	149	0.861	0.161	0.813	0.897
	Male	160	0.817	0.155	0.758	0.863
Lincoln SE	Female	196	0.880	0.140	0.844	0.908
	Male	182	0.847	0.146	0.800	0.883
Lincoln N Star	Female	199	0.884	0.139	0.849	0.911
	Male	204	0.821	0.137	0.771	0.861
Lincoln SW	Female	231	0.853	0.129	0.814	0.885
	Male	206	0.859	0.137	0.818	0.891
Scottsbluff	Female	95	0.793	0.202	0.704	0.858
	Male	78	0.841	0.223	0.762	0.896
Sidney	Female	42	0.897	0.304	0.815	0.944
	Male	42	0.818	0.304	0.684	0.899
South Sioux	Female	129	0.838	0.173	0.777	0.883
	Male	127	0.852	0.174	0.796	0.893

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A2.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Female and Male Students

Part C: Science Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,707	0.759	0.047	0.738	0.778
	Male	1,689	0.741	0.048	0.719	0.762
Alliance	Female	63	0.697	0.248	0.543	0.806
	Male	62	0.821	0.250	0.719	0.889
Columbus	Female	103	0.821	0.194	0.746	0.875
	Male	114	0.717	0.184	0.614	0.796
Gering	Female	74	0.704	0.229	0.566	0.803
	Male	80	0.788	0.220	0.687	0.859
Hastings	Female	96	0.777	0.201	0.682	0.846
	Male	113	0.686	0.185	0.574	0.773
Lincoln East	Female	167	0.704	0.152	0.618	0.773
	Male	177	0.744	0.148	0.670	0.803
Lincoln High	Female	165	0.799	0.153	0.736	0.848
	Male	146	0.804	0.163	0.738	0.855
Lincoln NE	Female	149	0.722	0.161	0.635	0.791
	Male	160	0.701	0.155	0.612	0.772
Lincoln SE	Female	194	0.778	0.141	0.716	0.828
	Male	180	0.685	0.146	0.598	0.755
Lincoln N Star	Female	199	0.746	0.139	0.677	0.802
	Male	204	0.749	0.137	0.682	0.804
Lincoln SW	Female	231	0.724	0.129	0.656	0.780
	Male	206	0.739	0.137	0.671	0.796
Scottsbluff	Female	95	0.705	0.202	0.587	0.794
	Male	78	0.787	0.223	0.684	0.859
Sidney	Female	42	0.838	0.304	0.717	0.910
	Male	42	0.686	0.304	0.483	0.819
South Sioux	Female	129	0.720	0.173	0.625	0.794
	Male	127	0.716	0.174	0.618	0.791

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A2.3
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Female and Male Students

Part A: Reading Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,761	0.802	0.047	0.784	0.818
	Male	1,737	0.771	0.047	0.751	0.789
Alliance	Female	55	0.801	0.266	0.680	0.879
	Male	59	0.672	0.256	0.503	0.792
Columbus	Female	158	0.805	0.156	0.742	0.853
	Male	133	0.784	0.170	0.708	0.842
Gering	Female	80	0.842	0.220	0.764	0.896
	Male	67	0.769	0.240	0.648	0.852
Hastings	Female	96	0.738	0.201	0.631	0.818
	Male	128	0.747	0.174	0.659	0.815
Lincoln East	Female	164	0.781	0.153	0.713	0.835
	Male	141	0.785	0.165	0.712	0.841
Lincoln High	Female	158	0.830	0.156	0.774	0.873
	Male	156	0.762	0.157	0.687	0.821
Lincoln NE	Female	161	0.800	0.155	0.737	0.850
	Male	152	0.700	0.159	0.609	0.773
Lincoln SE	Female	242	0.776	0.126	0.720	0.822
	Male	251	0.749	0.124	0.689	0.799
Lincoln N Star	Female	192	0.753	0.142	0.685	0.809
	Male	183	0.780	0.145	0.716	0.831
Lincoln SW	Female	203	0.799	0.138	0.744	0.844
	Male	198	0.705	0.139	0.628	0.769
Scottsbluff	Female	79	0.803	0.221	0.708	0.870
	Male	86	0.744	0.212	0.631	0.826
Sidney	Female	37	0.838	0.325	0.706	0.914
	Male	39	0.844	0.316	0.720	0.916
South Sioux	Female	136	0.775	0.168	0.698	0.835
	Male	144	0.792	0.164	0.722	0.846

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A2.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Female and Male Students

Part B: Mathematics Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,760	0.864	0.047	0.851	0.875
	Male	1,737	0.863	0.047	0.851	0.875
Alliance	Female	55	0.886	0.266	0.812	0.932
	Male	59	0.879	0.256	0.804	0.927
Columbus	Female	157	0.841	0.157	0.788	0.881
	Male	132	0.844	0.171	0.786	0.887
Gering	Female	79	0.910	0.221	0.863	0.942
	Male	67	0.839	0.240	0.750	0.898
Hastings	Female	96	0.838	0.201	0.767	0.889
	Male	128	0.820	0.174	0.754	0.870
Lincoln East	Female	164	0.872	0.153	0.830	0.904
	Male	141	0.849	0.165	0.795	0.889
Lincoln High	Female	158	0.884	0.156	0.844	0.914
	Male	156	0.880	0.157	0.839	0.911
Lincoln NE	Female	161	0.863	0.155	0.817	0.897
	Male	154	0.868	0.158	0.822	0.902
Lincoln SE	Female	242	0.839	0.126	0.797	0.873
	Male	251	0.854	0.124	0.816	0.884
Lincoln N Star	Female	192	0.853	0.142	0.810	0.888
	Male	183	0.870	0.145	0.830	0.901
Lincoln SW	Female	204	0.870	0.137	0.832	0.900
	Male	198	0.859	0.139	0.817	0.892
Scottsbluff	Female	79	0.860	0.221	0.789	0.909
	Male	86	0.895	0.212	0.844	0.931
Sidney	Female	37	0.868	0.325	0.756	0.930
	Male	38	0.880	0.320	0.780	0.936
South Sioux	Female	136	0.850	0.168	0.796	0.891
	Male	144	0.807	0.164	0.741	0.857

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A2.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Female and Male Students

Part C: Science Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	1,758	0.724	0.047	0.701	0.746
	Male	1,735	0.733	0.047	0.710	0.754
Alliance	Female	55	0.602	0.266	0.401	0.748
	Male	59	0.787	0.256	0.664	0.868
Columbus	Female	158	0.765	0.156	0.691	0.823
	Male	133	0.716	0.170	0.622	0.790
Gering	Female	79	0.714	0.221	0.585	0.807
	Male	67	0.756	0.240	0.630	0.843
Hastings	Female	96	0.797	0.201	0.710	0.860
	Male	128	0.684	0.174	0.579	0.766
Lincoln East	Female	164	0.730	0.153	0.650	0.795
	Male	141	0.772	0.165	0.696	0.831
Lincoln High	Female	157	0.750	0.157	0.672	0.811
	Male	156	0.779	0.157	0.709	0.834
Lincoln NE	Female	160	0.699	0.155	0.610	0.771
	Male	152	0.759	0.159	0.682	0.819
Lincoln SE	Female	242	0.715	0.126	0.647	0.772
	Male	251	0.695	0.124	0.625	0.754
Lincoln N Star	Female	192	0.678	0.142	0.593	0.748
	Male	183	0.738	0.145	0.664	0.797
Lincoln SW	Female	203	0.714	0.138	0.640	0.776
	Male	197	0.604	0.140	0.507	0.686
Scottsbluff	Female	79	0.738	0.221	0.617	0.824
	Male	86	0.738	0.212	0.623	0.821
Sidney	Female	37	0.691	0.325	0.472	0.829
	Male	38	0.733	0.320	0.539	0.853
South Sioux	Female	136	0.669	0.168	0.564	0.752
	Male	144	0.679	0.164	0.579	0.758

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A2.4
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Female and Male Students

Part A: Reading Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	5,183	0.796	0.027	0.786	0.806
	Male	5,109	0.765	0.027	0.753	0.776
Alliance	Female	172	0.798	0.150	0.736	0.846
	Male	173	0.790	0.149	0.726	0.840
Columbus	Female	370	0.791	0.102	0.749	0.826
	Male	384	0.784	0.100	0.742	0.820
Gering	Female	215	0.813	0.134	0.762	0.854
	Male	202	0.765	0.138	0.701	0.817
Hastings	Female	317	0.748	0.110	0.695	0.793
	Male	353	0.771	0.104	0.725	0.810
Lincoln East	Female	504	0.773	0.087	0.736	0.806
	Male	467	0.771	0.091	0.732	0.805
Lincoln High	Female	531	0.821	0.085	0.792	0.847
	Male	481	0.772	0.089	0.733	0.806
Lincoln NE	Female	454	0.792	0.092	0.755	0.824
	Male	468	0.738	0.091	0.694	0.777
Lincoln SE	Female	637	0.795	0.078	0.765	0.822
	Male	645	0.745	0.077	0.708	0.777
Lincoln N Star	Female	582	0.773	0.081	0.739	0.804
	Male	556	0.735	0.083	0.694	0.771
Lincoln SW	Female	631	0.749	0.078	0.713	0.782
	Male	622	0.733	0.079	0.695	0.768
Scottsbluff	Female	267	0.815	0.120	0.770	0.851
	Male	253	0.745	0.123	0.685	0.796
Sidney	Female	117	0.872	0.182	0.820	0.910
	Male	110	0.714	0.187	0.608	0.795
South Sioux	Female	386	0.766	0.100	0.721	0.804
	Male	395	0.747	0.099	0.700	0.788

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A2.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Female and Male Students

Part B: Mathematics Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	5,184	0.863	0.027	0.856	0.870
	Male	5,113	0.863	0.027	0.856	0.870
Alliance	Female	172	0.871	0.150	0.830	0.903
	Male	173	0.894	0.149	0.860	0.921
Columbus	Female	369	0.856	0.102	0.826	0.881
	Male	383	0.871	0.100	0.844	0.893
Gering	Female	214	0.873	0.134	0.837	0.901
	Male	203	0.866	0.138	0.827	0.897
Hastings	Female	316	0.859	0.110	0.827	0.885
	Male	353	0.854	0.104	0.823	0.880
Lincoln East	Female	504	0.870	0.087	0.847	0.890
	Male	467	0.873	0.091	0.849	0.893
Lincoln High	Female	532	0.858	0.085	0.834	0.879
	Male	482	0.882	0.089	0.861	0.900
Lincoln NE	Female	455	0.862	0.092	0.836	0.884
	Male	469	0.853	0.091	0.826	0.876
Lincoln SE	Female	639	0.860	0.078	0.838	0.879
	Male	648	0.848	0.077	0.825	0.868
Lincoln N Star	Female	582	0.866	0.081	0.844	0.885
	Male	556	0.842	0.083	0.816	0.865
Lincoln SW	Female	632	0.849	0.078	0.826	0.870
	Male	622	0.860	0.079	0.838	0.879
Scottsbluff	Female	267	0.859	0.120	0.824	0.887
	Male	253	0.858	0.123	0.821	0.887
Sidney	Female	117	0.864	0.182	0.809	0.904
	Male	109	0.838	0.188	0.771	0.886
South Sioux	Female	385	0.829	0.100	0.795	0.858
	Male	395	0.830	0.099	0.797	0.859

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A2.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Female and Male Students

Part C: Science Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Female	5,177	0.735	0.027	0.722	0.747
	Male	5,105	0.734	0.027	0.721	0.746
Alliance	Female	172	0.674	0.150	0.584	0.749
	Male	173	0.785	0.149	0.720	0.836
Columbus	Female	369	0.769	0.102	0.724	0.808
	Male	385	0.708	0.100	0.654	0.754
Gering	Female	214	0.721	0.134	0.649	0.780
	Male	202	0.756	0.138	0.690	0.810
Hastings	Female	317	0.777	0.110	0.729	0.817
	Male	353	0.703	0.104	0.646	0.752
Lincoln East	Female	504	0.735	0.087	0.692	0.773
	Male	467	0.744	0.091	0.701	0.782
Lincoln High	Female	530	0.746	0.085	0.705	0.781
	Male	482	0.790	0.089	0.754	0.821
Lincoln NE	Female	452	0.725	0.092	0.678	0.766
	Male	467	0.742	0.091	0.698	0.780
Lincoln SE	Female	637	0.721	0.078	0.681	0.756
	Male	643	0.705	0.077	0.664	0.742
Lincoln N Star	Female	582	0.725	0.081	0.684	0.761
	Male	555	0.735	0.083	0.694	0.771
Lincoln SW	Female	631	0.681	0.078	0.637	0.721
	Male	621	0.667	0.079	0.621	0.708
Scottsbluff	Female	267	0.736	0.120	0.675	0.786
	Male	253	0.753	0.123	0.694	0.802
Sidney	Female	117	0.781	0.182	0.698	0.843
	Male	109	0.705	0.188	0.596	0.788
South Sioux	Female	385	0.696	0.100	0.640	0.744
	Male	395	0.719	0.099	0.668	0.764

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Appendix 3

Numbers of Students Tested, Correlation Coefficients, Critical Values, and Confidence Intervals of the Score Correlations of the ACT and NeSA Assessment Tests in Reading, Math, and Science for Non-Low-Income and Low-Income Students by School

Table A3.1
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Non-Low-Income and Low-Income Students

Part A: Reading Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,415	0.765	0.040	0.748	0.781
	Low-Income	985	0.730	0.062	0.699	0.758
Alliance	Non-Low-Income	84	0.828	0.215	0.746	0.885
	Low-Income	22	0.791	0.423	0.555	0.909
Columbus	Non-Low-Income	171	0.757	0.150	0.684	0.814
	Low-Income	75	0.698	0.227	0.559	0.798
Gering	Non-Low-Income	82	0.830	0.217	0.748	0.887
	Low-Income	34	0.776	0.339	0.594	0.883
Hastings	Non-Low-Income	148	0.731	0.161	0.646	0.798
	Low-Income	89	0.803	0.208	0.714	0.867
Lincoln East	Non-Low-Income	287	0.774	0.116	0.722	0.816
	Low-Income	35	0.688	0.334	0.460	0.831
Lincoln High	Non-Low-Income	191	0.739	0.142	0.668	0.798
	Low-Income	198	0.710	0.139	0.633	0.773
Lincoln NE	Non-Low-Income	190	0.801	0.142	0.743	0.847
	Low-Income	110	0.744	0.187	0.647	0.818
Lincoln SE	Non-Low-Income	355	0.763	0.104	0.715	0.803
	Low-Income	60	0.795	0.254	0.679	0.873
Lincoln N Star	Non-Low-Income	209	0.759	0.136	0.695	0.811
	Low-Income	151	0.688	0.160	0.594	0.764
Lincoln SW	Non-Low-Income	370	0.740	0.102	0.690	0.783
	Low-Income	45	0.721	0.294	0.542	0.837
Scottsbluff	Non-Low-Income	139	0.765	0.167	0.686	0.826
	Low-Income	43	0.705	0.301	0.513	0.830
Sidney	Non-Low-Income	54	0.676	0.268	0.498	0.799
	Low-Income	13	0.869	0.553	0.610	0.960
South Sioux	Non-Low-Income	135	0.744	0.169	0.658	0.811
	Low-Income	110	0.761	0.187	0.670	0.830

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A3.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Non-Low-Income and Low-Income Students

Part B: Mathematics Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,417	0.863	0.040	0.852	0.873
	Low-Income	984	0.794	0.062	0.770	0.816
Alliance	Non-Low-Income	84	0.876	0.215	0.814	0.918
	Low-Income	22	0.913	0.423	0.798	0.963
Columbus	Non-Low-Income	171	0.893	0.150	0.858	0.920
	Low-Income	76	0.788	0.226	0.684	0.861
Gering	Non-Low-Income	82	0.905	0.217	0.857	0.938
	Low-Income	34	0.800	0.339	0.633	0.896
Hastings	Non-Low-Income	148	0.892	0.161	0.853	0.921
	Low-Income	89	0.837	0.208	0.761	0.890
Lincoln East	Non-Low-Income	287	0.890	0.116	0.863	0.911
	Low-Income	35	0.820	0.334	0.670	0.906
Lincoln High	Non-Low-Income	191	0.826	0.142	0.775	0.866
	Low-Income	198	0.812	0.139	0.758	0.855
Lincoln NE	Non-Low-Income	191	0.886	0.142	0.851	0.913
	Low-Income	109	0.818	0.188	0.745	0.872
Lincoln SE	Non-Low-Income	356	0.881	0.104	0.855	0.902
	Low-Income	60	0.716	0.254	0.565	0.821
Lincoln N Star	Non-Low-Income	209	0.840	0.136	0.795	0.876
	Low-Income	151	0.832	0.160	0.775	0.875
Lincoln SW	Non-Low-Income	370	0.871	0.102	0.844	0.894
	Low-Income	45	0.714	0.294	0.532	0.833
Scottsbluff	Non-Low-Income	139	0.872	0.167	0.826	0.907
	Low-Income	43	0.754	0.301	0.587	0.860
Sidney	Non-Low-Income	54	0.782	0.268	0.651	0.868
	Low-Income	13	0.943	0.553	0.815	0.983
South Sioux	Non-Low-Income	135	0.854	0.169	0.801	0.894
	Low-Income	109	0.817	0.188	0.743	0.871

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A3.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Non-Low-Income and Low-Income Students

Part C: Science Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,411	0.708	0.040	0.688	0.728
	Low-Income	982	0.644	0.063	0.606	0.679
Alliance	Non-Low-Income	84	0.772	0.215	0.669	0.847
	Low-Income	22	0.655	0.423	0.322	0.843
Columbus	Non-Low-Income	171	0.740	0.150	0.663	0.801
	Low-Income	75	0.388	0.227	0.176	0.565
Gering	Non-Low-Income	82	0.699	0.217	0.568	0.795
	Low-Income	34	0.660	0.339	0.414	0.816
Hastings	Non-Low-Income	148	0.757	0.161	0.678	0.818
	Low-Income	89	0.621	0.208	0.474	0.734
Lincoln East	Non-Low-Income	287	0.728	0.116	0.668	0.778
	Low-Income	35	0.612	0.334	0.350	0.785
Lincoln High	Non-Low-Income	191	0.732	0.142	0.658	0.791
	Low-Income	197	0.632	0.140	0.540	0.709
Lincoln NE	Non-Low-Income	189	0.747	0.143	0.676	0.804
	Low-Income	109	0.778	0.188	0.691	0.843
Lincoln SE	Non-Low-Income	353	0.702	0.104	0.645	0.752
	Low-Income	60	0.690	0.254	0.528	0.803
Lincoln N Star	Non-Low-Income	208	0.702	0.136	0.626	0.765
	Low-Income	151	0.696	0.160	0.604	0.770
Lincoln SW	Non-Low-Income	370	0.635	0.102	0.570	0.692
	Low-Income	45	0.502	0.294	0.244	0.693
Scottsbluff	Non-Low-Income	139	0.752	0.167	0.669	0.816
	Low-Income	43	0.650	0.301	0.435	0.795
Sidney	Non-Low-Income	54	0.699	0.268	0.531	0.815
	Low-Income	13	0.743	0.553	0.324	0.918
South Sioux	Non-Low-Income	135	0.750	0.169	0.665	0.815
	Low-Income	109	0.758	0.188	0.665	0.828

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A3.2
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Non-Low-Income and Low-Income Students

Part A: Reading Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,400	0.757	0.040	0.739	0.774
	Low-Income	994	0.751	0.062	0.723	0.777
Alliance	Non-Low-Income	92	0.793	0.205	0.703	0.859
	Low-Income	33	0.844	0.344	0.705	0.921
Columbus	Non-Low-Income	153	0.785	0.159	0.715	0.839
	Low-Income	64	0.747	0.246	0.614	0.839
Gering	Non-Low-Income	128	0.760	0.174	0.675	0.824
	Low-Income	26	0.614	0.388	0.298	0.809
Hastings	Non-Low-Income	130	0.732	0.172	0.641	0.803
	Low-Income	79	0.777	0.221	0.671	0.852
Lincoln East	Non-Low-Income	306	0.749	0.112	0.696	0.795
	Low-Income	38	0.699	0.320	0.488	0.833
Lincoln High	Non-Low-Income	152	0.843	0.159	0.790	0.884
	Low-Income	157	0.793	0.157	0.727	0.845
Lincoln NE	Non-Low-Income	195	0.741	0.141	0.670	0.798
	Low-Income	114	0.742	0.184	0.646	0.815
Lincoln SE	Non-Low-Income	292	0.778	0.115	0.728	0.819
	Low-Income	82	0.744	0.217	0.629	0.828
Lincoln N Star	Non-Low-Income	267	0.737	0.120	0.676	0.787
	Low-Income	136	0.739	0.168	0.652	0.807
Lincoln SW	Non-Low-Income	380	0.711	0.101	0.657	0.757
	Low-Income	57	0.776	0.261	0.646	0.862
Scottsbluff	Non-Low-Income	110	0.761	0.187	0.669	0.830
	Low-Income	63	0.781	0.248	0.661	0.862
Sidney	Non-Low-Income	69	0.841	0.237	0.754	0.899
	Low-Income	15	0.858	0.514	0.617	0.952
South Sioux	Non-Low-Income	126	0.699	0.175	0.597	0.779
	Low-Income	130	0.724	0.172	0.630	0.797

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A3.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Non-Low-Income and Low-Income Students

Part B: Mathematics Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,402	0.861	0.040	0.850	0.871
	Low-Income	997	0.821	0.062	0.799	0.840
Alliance	Non-Low-Income	92	0.911	0.205	0.868	0.940
	Low-Income	33	0.652	0.344	0.397	0.813
Columbus	Non-Low-Income	152	0.893	0.159	0.856	0.921
	Low-Income	64	0.865	0.246	0.786	0.916
Gering	Non-Low-Income	129	0.866	0.173	0.815	0.903
	Low-Income	26	0.836	0.388	0.664	0.924
Hastings	Non-Low-Income	130	0.848	0.172	0.792	0.890
	Low-Income	78	0.869	0.223	0.802	0.915
Lincoln East	Non-Low-Income	306	0.866	0.112	0.835	0.892
	Low-Income	38	0.675	0.320	0.454	0.818
Lincoln High	Non-Low-Income	152	0.886	0.159	0.846	0.916
	Low-Income	159	0.890	0.156	0.852	0.918
Lincoln NE	Non-Low-Income	195	0.847	0.141	0.803	0.883
	Low-Income	114	0.753	0.184	0.661	0.823
Lincoln SE	Non-Low-Income	294	0.849	0.114	0.813	0.878
	Low-Income	84	0.871	0.215	0.807	0.915
Lincoln N Star	Non-Low-Income	267	0.848	0.120	0.811	0.879
	Low-Income	136	0.829	0.168	0.768	0.875
Lincoln SW	Non-Low-Income	380	0.847	0.101	0.816	0.873
	Low-Income	57	0.814	0.261	0.703	0.887
Scottsbluff	Non-Low-Income	110	0.836	0.187	0.769	0.884
	Low-Income	63	0.755	0.248	0.624	0.845
Sidney	Non-Low-Income	69	0.851	0.237	0.769	0.905
	Low-Income	15	0.872	0.514	0.651	0.957
South Sioux	Non-Low-Income	126	0.845	0.175	0.786	0.888
	Low-Income	130	0.830	0.172	0.768	0.877

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A3.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Non-Low-Income and Low-Income Students

Part C: Science Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,400	0.733	0.040	0.714	0.751
	Low-Income	996	0.672	0.062	0.636	0.705
Alliance	Non-Low-Income	92	0.778	0.205	0.682	0.848
	Low-Income	33	0.620	0.344	0.351	0.794
Columbus	Non-Low-Income	153	0.726	0.159	0.642	0.794
	Low-Income	64	0.724	0.246	0.582	0.823
Gering	Non-Low-Income	128	0.728	0.174	0.634	0.800
	Low-Income	26	0.790	0.388	0.581	0.902
Hastings	Non-Low-Income	130	0.738	0.172	0.648	0.807
	Low-Income	79	0.683	0.221	0.543	0.785
Lincoln East	Non-Low-Income	306	0.727	0.112	0.669	0.776
	Low-Income	38	0.589	0.320	0.332	0.765
Lincoln High	Non-Low-Income	152	0.762	0.159	0.686	0.822
	Low-Income	159	0.742	0.156	0.662	0.804
Lincoln NE	Non-Low-Income	195	0.724	0.141	0.650	0.785
	Low-Income	114	0.596	0.184	0.463	0.703
Lincoln SE	Non-Low-Income	292	0.727	0.115	0.668	0.777
	Low-Income	82	0.657	0.217	0.513	0.765
Lincoln N Star	Non-Low-Income	267	0.721	0.120	0.658	0.774
	Low-Income	136	0.743	0.168	0.657	0.810
Lincoln SW	Non-Low-Income	380	0.717	0.101	0.664	0.762
	Low-Income	57	0.617	0.261	0.424	0.756
Scottsbluff	Non-Low-Income	110	0.754	0.187	0.660	0.825
	Low-Income	63	0.670	0.248	0.506	0.787
Sidney	Non-Low-Income	69	0.770	0.237	0.652	0.852
	Low-Income	15	0.737	0.514	0.360	0.907
South Sioux	Non-Low-Income	126	0.712	0.175	0.614	0.789
	Low-Income	130	0.666	0.172	0.557	0.752

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A3.3
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Non-Low-Income and Low-Income Students

Part A: Reading Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,078	0.775	0.043	0.757	0.792
	Low-Income	1,420	0.738	0.052	0.713	0.761
Alliance	Non-Low-Income	70	0.752	0.235	0.629	0.839
	Low-Income	44	0.693	0.297	0.499	0.821
Columbus	Non-Low-Income	168	0.783	0.151	0.717	0.835
	Low-Income	123	0.751	0.177	0.662	0.819
Gering	Non-Low-Income	89	0.805	0.208	0.717	0.868
	Low-Income	58	0.760	0.259	0.624	0.851
Hastings	Non-Low-Income	99	0.743	0.198	0.639	0.820
	Low-Income	125	0.713	0.176	0.615	0.790
Lincoln East	Non-Low-Income	270	0.766	0.119	0.711	0.811
	Low-Income	35	0.778	0.334	0.601	0.883
Lincoln High	Non-Low-Income	118	0.814	0.181	0.743	0.867
	Low-Income	196	0.700	0.140	0.621	0.765
Lincoln NE	Non-Low-Income	165	0.772	0.153	0.702	0.827
	Low-Income	148	0.697	0.161	0.603	0.771
Lincoln SE	Non-Low-Income	335	0.741	0.107	0.689	0.786
	Low-Income	158	0.771	0.156	0.699	0.827
Lincoln N Star	Non-Low-Income	181	0.784	0.146	0.720	0.834
	Low-Income	194	0.709	0.141	0.632	0.773
Lincoln SW	Non-Low-Income	343	0.746	0.106	0.695	0.790
	Low-Income	58	0.723	0.259	0.571	0.827
Scottsbluff	Non-Low-Income	85	0.766	0.213	0.660	0.841
	Low-Income	80	0.758	0.220	0.645	0.838
Sidney	Non-Low-Income	50	0.857	0.279	0.760	0.917
	Low-Income	26	0.776	0.388	0.556	0.895
South Sioux	Non-Low-Income	105	0.800	0.192	0.718	0.860
	Low-Income	175	0.758	0.148	0.687	0.815

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A3.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Non-Low-Income and Low-Income Students

Part B: Mathematics Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,076	0.861	0.043	0.849	0.872
	Low-Income	1,421	0.819	0.052	0.801	0.835
Alliance	Non-Low-Income	70	0.883	0.235	0.817	0.926
	Low-Income	44	0.883	0.297	0.795	0.935
Columbus	Non-Low-Income	167	0.821	0.152	0.765	0.865
	Low-Income	122	0.819	0.178	0.751	0.870
Gering	Non-Low-Income	88	0.871	0.210	0.809	0.914
	Low-Income	58	0.855	0.259	0.766	0.912
Hastings	Non-Low-Income	99	0.851	0.198	0.786	0.898
	Low-Income	125	0.757	0.176	0.670	0.823
Lincoln East	Non-Low-Income	270	0.864	0.119	0.830	0.891
	Low-Income	35	0.772	0.334	0.590	0.879
Lincoln High	Non-Low-Income	118	0.890	0.181	0.846	0.923
	Low-Income	196	0.852	0.140	0.808	0.886
Lincoln NE	Non-Low-Income	165	0.878	0.153	0.837	0.908
	Low-Income	150	0.813	0.160	0.751	0.861
Lincoln SE	Non-Low-Income	335	0.849	0.107	0.816	0.877
	Low-Income	158	0.810	0.156	0.749	0.858
Lincoln N Star	Non-Low-Income	181	0.858	0.146	0.814	0.892
	Low-Income	194	0.833	0.141	0.784	0.872
Lincoln SW	Non-Low-Income	343	0.855	0.106	0.823	0.881
	Low-Income	59	0.788	0.256	0.666	0.869
Scottsbluff	Non-Low-Income	85	0.891	0.213	0.837	0.928
	Low-Income	80	0.868	0.220	0.802	0.914
Sidney	Non-Low-Income	50	0.853	0.279	0.754	0.915
	Low-Income	25	0.857	0.396	0.699	0.935
South Sioux	Non-Low-Income	105	0.853	0.192	0.791	0.898
	Low-Income	175	0.750	0.148	0.677	0.808

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A3.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Non-Low-Income and Low-Income Students

Part C: Science Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	2,076	0.703	0.043	0.680	0.724
	Low-Income	1,417	0.683	0.052	0.655	0.710
Alliance	Non-Low-Income	70	0.724	0.235	0.589	0.819
	Low-Income	44	0.652	0.297	0.440	0.795
Columbus	Non-Low-Income	168	0.708	0.151	0.623	0.776
	Low-Income	123	0.703	0.177	0.601	0.783
Gering	Non-Low-Income	88	0.699	0.210	0.573	0.792
	Low-Income	58	0.729	0.259	0.580	0.831
Hastings	Non-Low-Income	99	0.670	0.198	0.545	0.766
	Low-Income	125	0.745	0.176	0.655	0.814
Lincoln East	Non-Low-Income	270	0.742	0.119	0.684	0.792
	Low-Income	35	0.722	0.334	0.513	0.851
Lincoln High	Non-Low-Income	118	0.732	0.181	0.636	0.806
	Low-Income	195	0.692	0.141	0.611	0.759
Lincoln NE	Non-Low-Income	165	0.752	0.153	0.677	0.812
	Low-Income	147	0.634	0.162	0.526	0.722
Lincoln SE	Non-Low-Income	335	0.691	0.107	0.630	0.743
	Low-Income	158	0.694	0.156	0.603	0.767
Lincoln N Star	Non-Low-Income	181	0.668	0.146	0.579	0.742
	Low-Income	194	0.683	0.141	0.600	0.752
Lincoln SW	Non-Low-Income	342	0.627	0.106	0.558	0.687
	Low-Income	58	0.646	0.259	0.465	0.775
Scottsbluff	Non-Low-Income	85	0.780	0.213	0.680	0.851
	Low-Income	80	0.647	0.220	0.498	0.759
Sidney	Non-Low-Income	50	0.661	0.279	0.469	0.793
	Low-Income	25	0.687	0.396	0.400	0.851
South Sioux	Non-Low-Income	105	0.698	0.192	0.585	0.785
	Low-Income	175	0.631	0.148	0.532	0.712

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

Table A3.4
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Non-Low-Income and Low-Income Students

Part A: Reading Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	6,893	0.766	0.024	0.756	0.775
	Low-Income	3,399	0.742	0.034	0.726	0.757
Alliance	Non-Low-Income	246	0.798	0.125	0.747	0.839
	Low-Income	99	0.761	0.198	0.663	0.833
Columbus	Non-Low-Income	492	0.769	0.088	0.730	0.803
	Low-Income	262	0.740	0.121	0.679	0.790
Gering	Non-Low-Income	299	0.789	0.113	0.742	0.828
	Low-Income	118	0.736	0.181	0.640	0.809
Hastings	Non-Low-Income	377	0.730	0.101	0.679	0.774
	Low-Income	293	0.759	0.115	0.706	0.804
Lincoln East	Non-Low-Income	863	0.762	0.067	0.732	0.789
	Low-Income	108	0.723	0.189	0.618	0.802
Lincoln High	Non-Low-Income	461	0.792	0.091	0.755	0.824
	Low-Income	551	0.734	0.084	0.693	0.770
Lincoln NE	Non-Low-Income	550	0.771	0.084	0.735	0.803
	Low-Income	372	0.725	0.102	0.673	0.770
Lincoln SE	Non-Low-Income	982	0.761	0.063	0.733	0.786
	Low-Income	300	0.765	0.113	0.713	0.808
Lincoln N Star	Non-Low-Income	657	0.756	0.076	0.722	0.787
	Low-Income	481	0.716	0.089	0.669	0.757
Lincoln SW	Non-Low-Income	1,093	0.728	0.059	0.699	0.755
	Low-Income	160	0.742	0.155	0.663	0.804
Scottsbluff	Non-Low-Income	334	0.763	0.107	0.714	0.804
	Low-Income	186	0.773	0.144	0.707	0.825
Sidney	Non-Low-Income	173	0.783	0.149	0.718	0.835
	Low-Income	54	0.794	0.268	0.669	0.876
South Sioux	Non-Low-Income	366	0.746	0.103	0.697	0.788
	Low-Income	415	0.749	0.096	0.704	0.789

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A3.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Non-Low-Income and Low-Income Students

Part B: Mathematics Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	6,895	0.859	0.024	0.853	0.865
	Low-Income	3,402	0.813	0.034	0.801	0.824
Alliance	Non-Low-Income	246	0.891	0.125	0.862	0.914
	Low-Income	99	0.838	0.198	0.767	0.888
Columbus	Non-Low-Income	490	0.863	0.089	0.839	0.884
	Low-Income	262	0.815	0.121	0.770	0.852
Gering	Non-Low-Income	299	0.869	0.113	0.838	0.894
	Low-Income	118	0.807	0.181	0.734	0.862
Hastings	Non-Low-Income	377	0.864	0.101	0.835	0.887
	Low-Income	292	0.813	0.115	0.770	0.849
Lincoln East	Non-Low-Income	863	0.870	0.067	0.853	0.886
	Low-Income	108	0.761	0.189	0.668	0.830
Lincoln High	Non-Low-Income	461	0.850	0.091	0.823	0.874
	Low-Income	553	0.849	0.083	0.824	0.871
Lincoln NE	Non-Low-Income	551	0.868	0.084	0.846	0.887
	Low-Income	373	0.794	0.102	0.753	0.829
Lincoln SE	Non-Low-Income	985	0.855	0.062	0.837	0.871
	Low-Income	302	0.804	0.113	0.760	0.840
Lincoln N Star	Non-Low-Income	657	0.847	0.076	0.824	0.867
	Low-Income	481	0.831	0.089	0.801	0.857
Lincoln SW	Non-Low-Income	1,093	0.848	0.059	0.831	0.864
	Low-Income	161	0.769	0.155	0.697	0.826
Scottsbluff	Non-Low-Income	334	0.859	0.107	0.828	0.884
	Low-Income	186	0.831	0.144	0.780	0.870
Sidney	Non-Low-Income	173	0.828	0.149	0.775	0.870
	Low-Income	53	0.860	0.271	0.768	0.917
South Sioux	Non-Low-Income	366	0.845	0.103	0.813	0.872
	Low-Income	414	0.791	0.096	0.752	0.825

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Table A3.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Non-Low-Income and Low-Income Students

Part C: Science Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested	Correlation Coefficient	Critical Value ¹	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	Non-Low-Income	6,887	0.715	0.024	0.703	0.726
	Low-Income	3,395	0.673	0.034	0.654	0.691
Alliance	Non-Low-Income	246	0.754	0.125	0.694	0.803
	Low-Income	99	0.660	0.198	0.532	0.759
Columbus	Non-Low-Income	492	0.725	0.088	0.681	0.765
	Low-Income	262	0.636	0.121	0.557	0.703
Gering	Non-Low-Income	298	0.714	0.114	0.653	0.765
	Low-Income	118	0.735	0.181	0.640	0.809
Hastings	Non-Low-Income	377	0.724	0.101	0.672	0.768
	Low-Income	293	0.694	0.115	0.629	0.749
Lincoln East	Non-Low-Income	863	0.729	0.067	0.696	0.759
	Low-Income	108	0.639	0.189	0.512	0.739
Lincoln High	Non-Low-Income	461	0.743	0.091	0.699	0.781
	Low-Income	551	0.687	0.084	0.641	0.729
Lincoln NE	Non-Low-Income	549	0.737	0.084	0.696	0.773
	Low-Income	370	0.661	0.102	0.599	0.714
Lincoln SE	Non-Low-Income	980	0.705	0.063	0.672	0.735
	Low-Income	300	0.681	0.113	0.615	0.737
Lincoln N Star	Non-Low-Income	656	0.699	0.077	0.658	0.736
	Low-Income	481	0.706	0.089	0.659	0.749
Lincoln SW	Non-Low-Income	1,092	0.659	0.059	0.624	0.691
	Low-Income	160	0.588	0.155	0.476	0.681
Scottsbluff	Non-Low-Income	334	0.759	0.107	0.710	0.801
	Low-Income	186	0.673	0.144	0.585	0.744
Sidney	Non-Low-Income	173	0.729	0.149	0.650	0.792
	Low-Income	53	0.727	0.271	0.568	0.833
South Sioux	Non-Low-Income	366	0.719	0.103	0.666	0.765
	Low-Income	414	0.675	0.096	0.619	0.724

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability.

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Appendix 4

Numbers of Students Tested, Correlation Coefficients, Critical Values, and Confidence Intervals of the Score Correlations of the ACT and NeSA Assessment Tests in Reading, Math, and Science for Each Racial/Ethnic Group by School

Table A4.1
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,404	0.770	0.040	0.754	0.786
	Asian	151	0.799	0.160	0.733	0.850
	Black non-Hispanic	164	0.776	0.153	0.707	0.830
	Hispanic	529	0.706	0.085	0.661	0.747
	Native American	40	0.613	0.312	0.372	0.776
	Two or More Races	112	0.747	0.186	0.651	0.819
Alliance	White non-Hispanic	79	0.852	0.221	0.778	0.903
	Asian					
	Black non-Hispanic					
	Hispanic	17	0.613	0.482	0.188	0.845
	Native American					
Columbus	White non-Hispanic	165	0.741	0.153	0.663	0.803
	Asian					
	Black non-Hispanic					
	Hispanic	73	0.749	0.230	0.627	0.835
	Native American					
Gering	White non-Hispanic	80	0.825	0.220	0.739	0.884
	Asian					
	Black non-Hispanic					
	Hispanic	32	0.695	0.349	0.457	0.840
	Native American					
Hastings	White non-Hispanic	189	0.758	0.143	0.690	0.813
	Asian					
	Black non-Hispanic					
	Hispanic	38	0.732	0.320	0.538	0.852
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2012), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	283	0.763	0.117	0.709	0.808
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races	14	0.801	0.532	0.471	0.935
Lincoln High	White non-Hispanic	196	0.753	0.140	0.685	0.808
	Asian	56	0.650	0.263	0.467	0.780
	Black non-Hispanic	63	0.795	0.248	0.682	0.871
	Hispanic	50	0.740	0.279	0.581	0.844
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	235	0.797	0.128	0.745	0.839
	Asian	10	0.865	0.632	0.518	0.968
	Black non-Hispanic	22	0.806	0.423	0.582	0.916
	Hispanic	13	0.470	0.553	-0.109	0.811
	Native American	0				
	Two or More Races	18	0.337	0.468	-0.154	0.694
Lincoln SE	White non-Hispanic	351	0.782	0.105	0.738	0.820
	Asian					
	Black non-Hispanic	16	0.839	0.497	0.587	0.943
	Hispanic	18	0.710	0.468	0.365	0.884
	Native American					
	Two or More Races	16	0.511	0.497	0.020	0.803
Lincoln N Star	White non-Hispanic	226	0.765	0.131	0.705	0.814
	Asian	35	0.742	0.334	0.543	0.862
	Black non-Hispanic	26	0.753	0.388	0.517	0.883
	Hispanic	56	0.715	0.263	0.557	0.823
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

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Table A4.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2012), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	346	0.733	0.105	0.680	0.778
	Asian	14	0.861	0.532	0.609	0.955
	Black non-Hispanic	15	0.193	0.514	-0.354	0.642
	Hispanic	29	0.666	0.367	0.396	0.830
	Native American	0				
	Two or More Races	11	0.761	0.602	0.297	0.934
Scottsbluff	White non-Hispanic	116	0.779	0.182	0.696	0.842
	Asian					
	Black non-Hispanic					
	Hispanic	54	0.728	0.268	0.572	0.834
	Native American					
Sidney	White non-Hispanic	59	0.704	0.256	0.547	0.814
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	79	0.788	0.221	0.687	0.860
	Asian	10	0.853	0.632	0.482	0.965
	Black non-Hispanic					
	Hispanic	136	0.698	0.168	0.601	0.776
	Native American	11	0.757	0.602	0.288	0.933
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,405	0.864	0.040	0.853	0.874
	Asian	150	0.847	0.160	0.794	0.887
	Black non-Hispanic	165	0.853	0.153	0.805	0.890
	Hispanic	530	0.791	0.085	0.756	0.821
	Native American	40	0.835	0.312	0.708	0.910
	Two or More Races	111	0.833	0.187	0.766	0.883
Alliance	White non-Hispanic	79	0.880	0.221	0.818	0.922
	Asian					
	Black non-Hispanic					
	Hispanic	17	0.809	0.482	0.538	0.929
	Native American					
	Two or More Races					
Columbus	White non-Hispanic	165	0.906	0.153	0.874	0.930
	Asian					
	Black non-Hispanic					
	Hispanic	74	0.674	0.229	0.527	0.782
	Native American					
	Two or More Races					
Gering	White non-Hispanic	80	0.905	0.220	0.855	0.938
	Asian					
	Black non-Hispanic					
	Hispanic	32	0.777	0.349	0.587	0.886
	Native American					
	Two or More Races					
Hastings	White non-Hispanic	189	0.887	0.143	0.852	0.914
	Asian					
	Black non-Hispanic					
	Hispanic	38	0.897	0.320	0.809	0.945
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2012), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	283	0.891	0.117	0.864	0.912
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races	14	0.850	0.532	0.581	0.951
Lincoln High	White non-Hispanic	196	0.832	0.140	0.784	0.871
	Asian	56	0.842	0.263	0.743	0.904
	Black non-Hispanic	63	0.841	0.248	0.750	0.901
	Hispanic	50	0.851	0.279	0.751	0.913
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	236	0.866	0.128	0.830	0.894
	Asian	10	0.957	0.632	0.822	0.990
	Black non-Hispanic	22	0.867	0.423	0.702	0.944
	Hispanic	13	0.642	0.553	0.141	0.881
	Native American	0				
	Two or More Races	17	0.877	0.482	0.684	0.955
Lincoln SE	White non-Hispanic	351	0.875	0.105	0.848	0.898
	Asian					
	Black non-Hispanic	17	0.871	0.482	0.671	0.953
	Hispanic	18	0.851	0.468	0.637	0.943
	Native American					
	Two or More Races	16	0.746	0.497	0.397	0.906
Lincoln N Star	White non-Hispanic	226	0.843	0.131	0.800	0.877
	Asian	35	0.876	0.334	0.766	0.936
	Black non-Hispanic	26	0.920	0.388	0.828	0.964
	Hispanic	56	0.867	0.263	0.782	0.920
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2012), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	346	0.864	0.105	0.834	0.888
	Asian	14	0.771	0.532	0.407	0.924
	Black non-Hispanic	15	0.584	0.514	0.103	0.844
	Hispanic	29	0.876	0.367	0.751	0.941
	Native American	0				
	Two or More Races	11	0.833	0.602	0.467	0.956
Scottsbluff	White non-Hispanic	116	0.880	0.182	0.831	0.915
	Asian					
	Black non-Hispanic					
	Hispanic	54	0.839	0.268	0.737	0.904
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	59	0.820	0.256	0.713	0.889
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	79	0.884	0.221	0.824	0.924
	Asian					
	Black non-Hispanic					
	Hispanic	136	0.786	0.168	0.711	0.842
	Native American	11	0.841	0.602	0.487	0.958
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2012)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,402	0.703	0.040	0.683	0.723
	Asian	149	0.783	0.161	0.712	0.839
	Black non-Hispanic	164	0.721	0.153	0.639	0.788
	Hispanic	527	0.647	0.085	0.595	0.694
	Native American	40	0.680	0.312	0.467	0.818
	Two or More Races	111	0.711	0.187	0.605	0.792
Alliance	White non-Hispanic	79	0.751	0.221	0.636	0.834
	Asian					
	Black non-Hispanic					
	Hispanic	17	0.810	0.482	0.540	0.929
	Native American					
Columbus	White non-Hispanic	165	0.756	0.153	0.682	0.814
	Asian					
	Black non-Hispanic					
	Hispanic	73	0.345	0.230	0.125	0.533
	Native American					
Gering	White non-Hispanic	80	0.713	0.220	0.584	0.806
	Asian					
	Black non-Hispanic					
	Hispanic	32	0.481	0.349	0.159	0.710
	Native American					
Hastings	White non-Hispanic	189	0.746	0.143	0.675	0.803
	Asian					
	Black non-Hispanic					
	Hispanic	38	0.655	0.320	0.424	0.806
	Native American					
	Two or More Races					

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²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2012), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	283	0.734	0.117	0.675	0.784
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races	14	0.752	0.532	0.369	0.917
Lincoln High	White non-Hispanic	196	0.720	0.140	0.645	0.781
	Asian	56	0.729	0.263	0.577	0.833
	Black non-Hispanic	63	0.668	0.248	0.504	0.786
	Hispanic	49	0.744	0.282	0.585	0.848
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	234	0.762	0.128	0.702	0.811
	Asian	10	0.528	0.632	-0.153	0.869
	Black non-Hispanic	22	0.760	0.423	0.498	0.895
	Hispanic	13	0.388	0.553	-0.207	0.774
	Native American	0				
	Two or More Races	17	0.796	0.482	0.512	0.924
Lincoln SE	White non-Hispanic	350	0.706	0.105	0.650	0.755
	Asian					
	Black non-Hispanic	16	0.830	0.497	0.569	0.939
	Hispanic	17	0.733	0.482	0.389	0.897
	Native American					
	Two or More Races	16	0.745	0.497	0.395	0.906
Lincoln N Star	White non-Hispanic	226	0.743	0.131	0.678	0.796
	Asian	34	0.756	0.339	0.562	0.872
	Black non-Hispanic	26	0.717	0.388	0.456	0.864
	Hispanic	56	0.693	0.263	0.526	0.809
	Native American					
	Two or More Races					

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²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2012), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	346	0.617	0.105	0.547	0.678
	Asian	14	0.743	0.532	0.352	0.914
	Black non-Hispanic	15	-0.015	0.514	-0.523	0.501
	Hispanic	29	0.730	0.367	0.496	0.865
	Native American	0				
	Two or More Races	11	0.527	0.602	-0.106	0.856
Scottsbluff	White non-Hispanic	116	0.753	0.182	0.661	0.822
	Asian					
	Black non-Hispanic					
	Hispanic	54	0.667	0.268	0.487	0.793
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	59	0.743	0.256	0.602	0.840
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	79	0.758	0.221	0.646	0.839
	Asian					
	Black non-Hispanic					
	Hispanic	136	0.719	0.168	0.626	0.791
	Native American	11	0.746	0.602	0.265	0.930
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Table A4.2
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,395	0.769	0.040	0.752	0.785
	Asian	134	0.854	0.170	0.801	0.894
	Black non-Hispanic	123	0.788	0.177	0.710	0.847
	Hispanic	562	0.721	0.083	0.678	0.758
	Native American	32	0.732	0.349	0.514	0.861
	Two or More Races	148	0.783	0.161	0.712	0.838
Alliance	White non-Hispanic	91	0.819	0.206	0.737	0.877
	Asian					
	Black non-Hispanic					
	Hispanic	20	0.716	0.444	0.400	0.880
	Native American					
Columbus	White non-Hispanic	143	0.793	0.164	0.723	0.847
	Asian					
	Black non-Hispanic					
	Hispanic	66	0.745	0.242	0.613	0.836
	Native American					
Gering	White non-Hispanic	101	0.738	0.196	0.634	0.816
	Asian					
	Black non-Hispanic					
	Hispanic	44	0.783	0.297	0.634	0.876
	Native American					
Hastings	White non-Hispanic	158	0.760	0.156	0.685	0.819
	Asian					
	Black non-Hispanic					
	Hispanic	37	0.732	0.325	0.534	0.853
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2013), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	298	0.754	0.114	0.701	0.800
	Asian	13	0.769	0.553	0.378	0.927
	Black non-Hispanic					
	Hispanic	16	0.774	0.497	0.451	0.918
	Native American					
	Two or More Races	11	0.731	0.602	0.234	0.925
Lincoln High	White non-Hispanic	157	0.840	0.157	0.787	0.881
	Asian	37	0.878	0.325	0.774	0.936
	Black non-Hispanic	38	0.883	0.320	0.786	0.938
	Hispanic	46	0.674	0.291	0.477	0.806
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	240	0.772	0.127	0.715	0.818
	Asian					
	Black non-Hispanic	13	0.743	0.553	0.326	0.918
	Hispanic	25	0.598	0.396	0.265	0.803
	Native American					
	Two or More Races	23	0.812	0.413	0.600	0.917
Lincoln SE	White non-Hispanic	316	0.775	0.110	0.726	0.815
	Asian					
	Black non-Hispanic	14	0.708	0.532	0.284	0.900
	Hispanic	21	0.849	0.433	0.660	0.937
	Native American					
	Two or More Races	16	0.831	0.497	0.571	0.940
Lincoln N Star	White non-Hispanic	279	0.741	0.117	0.684	0.790
	Asian	34	0.820	0.339	0.668	0.907
	Black non-Hispanic	29	0.762	0.367	0.548	0.882
	Hispanic	39	0.718	0.316	0.520	0.842
	Native American	0				
	Two or More Races	20	0.621	0.444	0.247	0.834

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

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Continued on the next page.

Table A4.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2013), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	369	0.736	0.102	0.686	0.780
	Asian	20	0.795	0.444	0.544	0.915
	Black non-Hispanic	11	0.899	0.602	0.650	0.974
	Hispanic	16	0.622	0.497	0.182	0.854
	Native American	0				
	Two or More Races	19	0.765	0.456	0.475	0.905
Scottsbluff	White non-Hispanic	94	0.737	0.203	0.629	0.818
	Asian					
	Black non-Hispanic					
	Hispanic	74	0.766	0.229	0.652	0.847
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	73	0.853	0.230	0.775	0.905
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	76	0.805	0.226	0.709	0.872
	Asian	10	0.615	0.632	-0.023	0.897
	Black non-Hispanic					
	Hispanic	150	0.668	0.160	0.568	0.748
	Native American					
	Two or More Races					

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Continued on the next page.

Table A4.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,398	0.865	0.040	0.855	0.875
	Asian	136	0.890	0.168	0.848	0.920
	Black non-Hispanic	123	0.785	0.177	0.706	0.845
	Hispanic	562	0.829	0.083	0.801	0.853
	Native American	32	0.882	0.349	0.770	0.941
	Two or More Races	148	0.867	0.161	0.820	0.902
Alliance	White non-Hispanic	91	0.892	0.206	0.841	0.928
	Asian					
	Black non-Hispanic					
	Hispanic	20	0.894	0.444	0.747	0.958
	Native American					
Columbus	White non-Hispanic	142	0.897	0.165	0.859	0.925
	Asian					
	Black non-Hispanic					
	Hispanic	66	0.895	0.242	0.833	0.935
	Native American					
Gering	White non-Hispanic	102	0.865	0.195	0.806	0.907
	Asian					
	Black non-Hispanic					
	Hispanic	44	0.871	0.297	0.775	0.928
	Native American					
Hastings	White non-Hispanic	158	0.855	0.156	0.806	0.892
	Asian					
	Black non-Hispanic					
	Hispanic	36	0.866	0.329	0.751	0.930
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2013), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	298	0.867	0.114	0.836	0.893
	Asian	13	0.926	0.553	0.767	0.978
	Black non-Hispanic					
	Hispanic	16	0.635	0.497	0.203	0.860
	Native American					
	Two or More Races	11	0.758	0.602	0.290	0.933
Lincoln High	White non-Hispanic	157	0.892	0.157	0.855	0.920
	Asian	39	0.949	0.316	0.904	0.973
	Black non-Hispanic	38	0.852	0.320	0.732	0.921
	Hispanic	46	0.879	0.291	0.790	0.932
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	240	0.847	0.127	0.807	0.879
	Asian					
	Black non-Hispanic	13	0.549	0.553	-0.002	0.845
	Hispanic	25	0.731	0.396	0.473	0.874
	Native American					
	Two or More Races	23	0.788	0.413	0.556	0.906
Lincoln SE	White non-Hispanic	319	0.862	0.110	0.831	0.888
	Asian					
	Black non-Hispanic	14	0.805	0.532	0.480	0.936
	Hispanic	22	0.924	0.423	0.824	0.969
	Native American					
	Two or More Races	16	0.909	0.497	0.753	0.968
Lincoln N Star	White non-Hispanic	279	0.859	0.117	0.825	0.887
	Asian	34	0.780	0.339	0.600	0.885
	Black non-Hispanic	29	0.734	0.367	0.503	0.867
	Hispanic	39	0.802	0.316	0.651	0.892
	Native American	0				
	Two or More Races	20	0.903	0.444	0.766	0.961

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

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Continued on the next page.

Table A4.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2013), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	369	0.857	0.102	0.827	0.882
	Asian	20	0.861	0.444	0.676	0.944
	Black non-Hispanic	11	0.879	0.602	0.591	0.968
	Hispanic	16	0.702	0.497	0.316	0.888
	Native American	0				
	Two or More Races	19	0.697	0.456	0.354	0.874
Scottsbluff	White non-Hispanic	94	0.799	0.203	0.711	0.862
	Asian					
	Black non-Hispanic					
	Hispanic	74	0.819	0.229	0.726	0.882
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	73	0.851	0.230	0.772	0.904
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	76	0.880	0.226	0.816	0.922
	Asian	10	0.935	0.632	0.741	0.985
	Black non-Hispanic					
	Hispanic	150	0.816	0.160	0.754	0.863
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2013)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,395	0.736	0.040	0.718	0.754
	Asian	136	0.858	0.168	0.806	0.897
	Black non-Hispanic	123	0.592	0.177	0.464	0.696
	Hispanic	562	0.678	0.083	0.631	0.720
	Native American	32	0.800	0.349	0.626	0.898
	Two or More Races	148	0.710	0.161	0.619	0.782
Alliance	White non-Hispanic	91	0.757	0.206	0.653	0.833
	Asian					
	Black non-Hispanic					
	Hispanic	20	0.898	0.444	0.756	0.959
	Native American					
	Two or More Races					
Columbus	White non-Hispanic	143	0.747	0.164	0.665	0.812
	Asian					
	Black non-Hispanic					
	Hispanic	66	0.734	0.242	0.598	0.829
	Native American					
	Two or More Races					
Gering	White non-Hispanic	101	0.751	0.196	0.652	0.826
	Asian					
	Black non-Hispanic					
	Hispanic	44	0.774	0.297	0.619	0.871
	Native American					
	Two or More Races					
Hastings	White non-Hispanic	158	0.718	0.156	0.633	0.786
	Asian					
	Black non-Hispanic					
	Hispanic	37	0.760	0.325	0.578	0.870
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2013), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	298	0.716	0.114	0.656	0.767
	Asian	13	0.929	0.553	0.776	0.979
	Black non-Hispanic					
	Hispanic	16	0.694	0.497	0.302	0.885
	Native American					
	Two or More Races	11	0.430	0.602	-0.229	0.819
Lincoln High	White non-Hispanic	157	0.773	0.157	0.701	0.829
	Asian	39	0.845	0.316	0.721	0.916
	Black non-Hispanic	38	0.657	0.320	0.427	0.807
	Hispanic	46	0.781	0.291	0.634	0.873
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	240	0.704	0.127	0.634	0.763
	Asian					
	Black non-Hispanic	13	0.358	0.553	-0.241	0.759
	Hispanic	25	0.696	0.396	0.415	0.856
	Native American					
	Two or More Races	23	0.778	0.413	0.539	0.901
Lincoln SE	White non-Hispanic	316	0.727	0.110	0.671	0.776
	Asian					
	Black non-Hispanic	14	0.700	0.532	0.269	0.897
	Hispanic	21	0.516	0.433	0.109	0.775
	Native American					
	Two or More Races	16	0.876	0.497	0.671	0.956
Lincoln N Star	White non-Hispanic	279	0.741	0.117	0.683	0.790
	Asian	34	0.807	0.339	0.645	0.900
	Black non-Hispanic	29	0.357	0.367	-0.011	0.640
	Hispanic	39	0.704	0.316	0.499	0.834
	Native American	0				
	Two or More Races	20	0.563	0.444	0.161	0.805

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2013), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	369	0.745	0.102	0.695	0.787
	Asian	20	0.770	0.444	0.497	0.904
	Black non-Hispanic	11	0.835	0.602	0.472	0.956
	Hispanic	16	0.158	0.497	-0.366	0.606
	Native American	0				
	Two or More Races	19	0.427	0.456	-0.034	0.738
Scottsbluff	White non-Hispanic	94	0.771	0.203	0.674	0.842
	Asian					
	Black non-Hispanic					
	Hispanic	74	0.608	0.229	0.441	0.735
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	73	0.772	0.230	0.659	0.851
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	76	0.759	0.226	0.644	0.841
	Asian	10	0.792	0.632	0.324	0.949
	Black non-Hispanic					
	Hispanic	150	0.678	0.160	0.581	0.756
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Table A4.3
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,364	0.776	0.040	0.759	0.791
	Asian	132	0.865	0.171	0.814	0.902
	Black non-Hispanic	153	0.717	0.159	0.630	0.786
	Hispanic	665	0.748	0.076	0.712	0.780
	Native American	29	0.782	0.367	0.583	0.893
	Two or More Races	155	0.655	0.158	0.554	0.736
Alliance	White non-Hispanic	88	0.722	0.210	0.604	0.809
	Asian					
	Black non-Hispanic					
	Hispanic	21	0.723	0.433	0.423	0.880
	Native American					
Columbus	White non-Hispanic	197	0.773	0.140	0.710	0.824
	Asian					
	Black non-Hispanic					
	Hispanic	79	0.746	0.221	0.629	0.830
	Native American					
Gering	White non-Hispanic	94	0.798	0.203	0.711	0.862
	Asian					
	Black non-Hispanic					
	Hispanic	45	0.808	0.294	0.674	0.890
	Native American					
Hastings	White non-Hispanic	153	0.735	0.159	0.653	0.801
	Asian					
	Black non-Hispanic					
	Hispanic	56	0.740	0.263	0.592	0.839
	Native American					
	Two or More Races					

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²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2014), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	260	0.781	0.122	0.728	0.824
	Asian	13	0.847	0.553	0.556	0.953
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races	14	0.293	0.532	-0.281	0.713
Lincoln High	White non-Hispanic	149	0.787	0.161	0.717	0.841
	Asian	35	0.852	0.334	0.725	0.923
	Black non-Hispanic	47	0.682	0.288	0.491	0.810
	Hispanic	62	0.738	0.250	0.598	0.834
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	221	0.796	0.132	0.742	0.840
	Asian	12	0.909	0.576	0.701	0.975
	Black non-Hispanic	25	0.664	0.396	0.365	0.839
	Hispanic	30	0.710	0.361	0.471	0.852
	Native American	0				
	Two or More Races	25	0.210	0.396	-0.202	0.559
Lincoln SE	White non-Hispanic	395	0.758	0.099	0.713	0.797
	Asian					
	Black non-Hispanic	17	0.735	0.482	0.393	0.898
	Hispanic	27	0.771	0.381	0.553	0.890
	Native American					
	Two or More Races	37	0.633	0.325	0.389	0.794
Lincoln N Star	White non-Hispanic	234	0.790	0.128	0.737	0.834
	Asian	23	0.810	0.413	0.598	0.916
	Black non-Hispanic	33	0.635	0.344	0.374	0.803
	Hispanic	65	0.719	0.244	0.576	0.819
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part A: Reading Tests (Spring 2014), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	330	0.732	0.108	0.677	0.778
	Asian	14	0.903	0.532	0.715	0.969
	Black non-Hispanic	13	0.851	0.553	0.564	0.954
	Hispanic	27	0.833	0.381	0.663	0.921
	Native American	0				
	Two or More Races	15	0.787	0.514	0.460	0.926
Scottsbluff	White non-Hispanic	92	0.773	0.205	0.675	0.844
	Asian					
	Black non-Hispanic					
	Hispanic	66	0.702	0.242	0.554	0.807
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	68	0.821	0.239	0.724	0.886
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	83	0.816	0.216	0.729	0.878
	Asian	11	0.925	0.602	0.730	0.981
	Black non-Hispanic					
	Hispanic	172	0.730	0.150	0.652	0.793
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,366	0.861	0.040	0.850	0.871
	Asian	132	0.872	0.171	0.824	0.908
	Black non-Hispanic	153	0.809	0.159	0.746	0.857
	Hispanic	662	0.807	0.076	0.778	0.832
	Native American	29	0.861	0.367	0.723	0.933
	Two or More Races	155	0.850	0.158	0.800	0.889
Alliance	White non-Hispanic	88	0.888	0.210	0.834	0.926
	Asian					
	Black non-Hispanic					
	Hispanic	21	0.840	0.433	0.640	0.933
	Native American					
Columbus	White non-Hispanic	197	0.834	0.140	0.786	0.872
	Asian					
	Black non-Hispanic					
	Hispanic	77	0.745	0.224	0.625	0.830
	Native American					
Gering	White non-Hispanic	94	0.876	0.203	0.819	0.916
	Asian					
	Black non-Hispanic				0.000	0.000
	Hispanic	44	0.874	0.297	0.779	0.929
	Native American					
Hastings	White non-Hispanic	153	0.842	0.159	0.789	0.883
	Asian					
	Black non-Hispanic					
	Hispanic	56	0.729	0.263	0.577	0.833
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2014), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	260	0.856	0.122	0.820	0.886
	Asian	13	0.885	0.553	0.653	0.965
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races	14	0.932	0.532	0.794	0.979
Lincoln High	White non-Hispanic	149	0.879	0.161	0.836	0.911
	Asian	35	0.920	0.334	0.846	0.959
	Black non-Hispanic	47	0.772	0.288	0.623	0.867
	Hispanic	62	0.857	0.250	0.772	0.912
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	223	0.863	0.131	0.825	0.893
	Asian	12	0.902	0.576	0.679	0.972
	Black non-Hispanic	25	0.909	0.396	0.802	0.959
	Hispanic	30	0.882	0.361	0.765	0.943
	Native American	0				
	Two or More Races	25	0.750	0.396	0.505	0.884
Lincoln SE	White non-Hispanic	395	0.850	0.099	0.820	0.875
	Asian					
	Black non-Hispanic	17	0.866	0.482	0.661	0.951
	Hispanic	27	0.830	0.381	0.656	0.920
	Native American					
	Two or More Races	37	0.782	0.325	0.613	0.882
Lincoln N Star	White non-Hispanic	234	0.864	0.128	0.828	0.893
	Asian	23	0.889	0.413	0.753	0.952
	Black non-Hispanic	33	0.654	0.344	0.400	0.814
	Hispanic	65	0.866	0.244	0.789	0.916
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

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Table A4.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part B: Mathematics Tests (Spring 2014), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	331	0.855	0.108	0.823	0.881
	Asian	14	0.931	0.532	0.791	0.978
	Black non-Hispanic	13	0.881	0.553	0.642	0.964
	Hispanic	27	0.768	0.381	0.549	0.889
	Native American	0				
	Two or More Races	15	0.923	0.514	0.779	0.974
Scottsbluff	White non-Hispanic	92	0.881	0.205	0.825	0.920
	Asian					
	Black non-Hispanic					
	Hispanic	66	0.848	0.242	0.763	0.905
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	67	0.869	0.240	0.795	0.918
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	83	0.868	0.216	0.803	0.913
	Asian	11	0.827	0.602	0.451	0.954
	Black non-Hispanic					
	Hispanic	172	0.718	0.150	0.637	0.783
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2014)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	2,361	0.712	0.040	0.691	0.731
	Asian	132	0.813	0.171	0.746	0.864
	Black non-Hispanic	152	0.539	0.159	0.416	0.643
	Hispanic	664	0.664	0.076	0.619	0.705
	Native American	29	0.703	0.367	0.454	0.851
	Two or More Races	155	0.680	0.158	0.585	0.757
Alliance	White non-Hispanic	88	0.715	0.210	0.594	0.804
	Asian					
	Black non-Hispanic					
	Hispanic	21	0.513	0.433	0.105	0.774
	Native American					
	Two or More Races					
Columbus	White non-Hispanic	197	0.715	0.140	0.639	0.777
	Asian					
	Black non-Hispanic					
	Hispanic	79	0.634	0.221	0.480	0.750
	Native American					
	Two or More Races					
Gering	White non-Hispanic	94	0.750	0.203	0.645	0.827
	Asian					
	Black non-Hispanic					
	Hispanic	44	0.620	0.297	0.396	0.774
	Native American					
	Two or More Races					
Hastings	White non-Hispanic	153	0.714	0.159	0.626	0.784
	Asian					
	Black non-Hispanic					
	Hispanic	56	0.778	0.263	0.647	0.864
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2014), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	260	0.747	0.122	0.688	0.797
	Asian	13	0.830	0.553	0.515	0.948
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races	14	0.796	0.532	0.460	0.933
Lincoln High	White non-Hispanic	149	0.789	0.161	0.719	0.843
	Asian	35	0.737	0.334	0.535	0.859
	Black non-Hispanic	46	0.514	0.291	0.262	0.700
	Hispanic	62	0.687	0.250	0.527	0.799
	Native American					
	Two or More Races					
Lincoln NE	White non-Hispanic	220	0.739	0.132	0.672	0.794
	Asian	12	0.864	0.576	0.576	0.961
	Black non-Hispanic	25	0.633	0.396	0.318	0.823
	Hispanic	30	0.685	0.361	0.431	0.838
	Native American	0				
	Two or More Races	25	0.459	0.396	0.078	0.723
Lincoln SE	White non-Hispanic	395	0.699	0.099	0.645	0.746
	Asian					
	Black non-Hispanic	17	0.493	0.482	0.017	0.787
	Hispanic	27	0.794	0.381	0.592	0.902
	Native American					
	Two or More Races	37	0.599	0.325	0.341	0.773
Lincoln N Star	White non-Hispanic	234	0.696	0.128	0.624	0.757
	Asian	23	0.848	0.413	0.670	0.934
	Black non-Hispanic	33	0.557	0.344	0.264	0.756
	Hispanic	65	0.732	0.244	0.595	0.828
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for Each Racial/Ethnic Group

Part C: Science Tests (Spring 2014), Continued

School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	329	0.619	0.108	0.548	0.682
	Asian	14	0.927	0.532	0.781	0.977
	Black non-Hispanic	13	0.362	0.553	-0.236	0.761
	Hispanic	27	0.624	0.381	0.320	0.812
	Native American	0				
	Two or More Races	15	0.846	0.514	0.590	0.948
Scottsbluff	White non-Hispanic	92	0.735	0.205	0.624	0.817
	Asian					
	Black non-Hispanic					
	Hispanic	66	0.633	0.242	0.462	0.759
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	67	0.682	0.240	0.528	0.792
	Asian					
	Black non-Hispanic					
	Hispanic					
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	83	0.622	0.216	0.470	0.739
	Asian	11	0.851	0.602	0.513	0.960
	Black non-Hispanic					
	Hispanic	172	0.647	0.150	0.550	0.726
	Native American					
	Two or More Races					

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Table A4.4
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part A: Reading Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	7,163	0.771	0.023	0.762	0.781
	Asian	417	0.839	0.096	0.808	0.865
	Black non-Hispanic	440	0.764	0.093	0.722	0.800
	Hispanic	1,756	0.728	0.047	0.705	0.749
	Native American	101	0.705	0.196	0.592	0.792
	Two or More Races	415	0.723	0.096	0.673	0.766
Alliance	White non-Hispanic	258	0.801	0.122	0.752	0.841
	Asian					
	Black non-Hispanic					
	Hispanic	58	0.682	0.259	0.514	0.799
	Native American					
	Two or More Races	19	0.901	0.456	0.757	0.962
Columbus	White non-Hispanic	505	0.763	0.087	0.724	0.797
	Asian					
	Black non-Hispanic					
	Hispanic	218	0.745	0.133	0.680	0.799
	Native American					
	Two or More Races	11	0.678	0.602	0.131	0.908
Gering	White non-Hispanic	275	0.776	0.118	0.724	0.819
	Asian					
	Black non-Hispanic					
	Hispanic	121	0.774	0.179	0.692	0.837
	Native American					
	Two or More Races	13	0.856	0.553	0.578	0.956
Hastings	White non-Hispanic	500	0.750	0.088	0.709	0.786
	Asian					
	Black non-Hispanic					
	Hispanic	131	0.735	0.172	0.644	0.805
	Native American					
	Two or More Races	16	0.721	0.497	0.351	0.896

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part A: Reading Tests (3 Years Combined), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	841	0.765	0.068	0.735	0.792
	Asian	34	0.858	0.339	0.732	0.927
	Black non-Hispanic					
	Hispanic	32	0.795	0.349	0.617	0.895
	Native American					
	Two or More Races	39	0.738	0.316	0.550	0.854
Lincoln High	White non-Hispanic	502	0.789	0.088	0.754	0.820
	Asian	128	0.773	0.174	0.693	0.835
	Black non-Hispanic	148	0.788	0.161	0.718	0.843
	Hispanic	158	0.709	0.156	0.621	0.779
	Native American	16	0.748	0.497	0.401	0.907
	Two or More Races	60	0.838	0.254	0.742	0.900
Lincoln NE	White non-Hispanic	696	0.787	0.074	0.757	0.814
	Black non-Hispanic	60	0.743	0.254	0.602	0.838
	Hispanic	68	0.648	0.239	0.484	0.768
	Two or More Races	66	0.504	0.242	0.298	0.665
	White non-Hispanic	1,062	0.771	0.060	0.746	0.794
	Asian	28	0.853	0.374	0.705	0.930
Lincoln SE	Black non-Hispanic	47	0.752	0.288	0.593	0.855
	Hispanic	66	0.773	0.242	0.653	0.855
	Native American	10	0.455	0.632	-0.245	0.843
	Two or More Races	69	0.682	0.237	0.531	0.791
	White non-Hispanic	739	0.763	0.072	0.731	0.792
	Asian	92	0.782	0.205	0.688	0.851
Lincoln N Star	Black non-Hispanic	88	0.708	0.210	0.586	0.799
	Hispanic	160	0.710	0.155	0.624	0.780
	Native American	10	0.647	0.632	0.029	0.907
	Two or More Races	49	0.598	0.282	0.380	0.752

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

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Table A4.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part A: Reading Tests (3 Years Combined), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	1,045	0.731	0.061	0.702	0.758
	Asian	48	0.850	0.285	0.747	0.914
	Black non-Hispanic	39	0.827	0.316	0.692	0.906
	Hispanic	72	0.742	0.232	0.616	0.831
	Native American					
	Two or More Races	45	0.781	0.294	0.633	0.874
Scottsbluff	White non-Hispanic	302	0.764	0.113	0.713	0.807
	Asian					
	Black non-Hispanic					
	Hispanic	194	0.736	0.141	0.664	0.795
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	200	0.791	0.139	0.733	0.838
	Asian					
	Black non-Hispanic					
	Hispanic	20	0.801	0.444	0.554	0.918
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	238	0.798	0.127	0.747	0.840
	Asian	31	0.800	0.355	0.622	0.899
	Black non-Hispanic	18	0.726	0.468	0.393	0.891
	Hispanic	458	0.702	0.092	0.653	0.746
	Native American	20	0.687	0.444	0.351	0.866
	Two or More Races	16	0.680	0.497	0.278	0.879

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part B: Mathematics Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	7,169	0.861	0.023	0.855	0.867
	Asian	418	0.867	0.096	0.841	0.889
	Black non-Hispanic	441	0.810	0.093	0.775	0.840
	Hispanic	1,754	0.809	0.047	0.792	0.825
	Native American	101	0.844	0.196	0.776	0.892
	Two or More Races	414	0.844	0.096	0.814	0.870
Alliance	White non-Hispanic	258	0.886	0.122	0.856	0.909
	Asian					
	Black non-Hispanic					
	Hispanic	58	0.846	0.259	0.752	0.906
	Native American					
	Two or More Races	19	0.784	0.456	0.511	0.913
Columbus	White non-Hispanic	504	0.867	0.087	0.844	0.887
	Asian					
	Black non-Hispanic					
	Hispanic	217	0.771	0.133	0.711	0.820
	Native American					
	Two or More Races	11	0.743	0.602	0.258	0.929
Gering	White non-Hispanic	276	0.870	0.118	0.838	0.896
	Asian					
	Black non-Hispanic					
	Hispanic	120	0.823	0.179	0.756	0.874
	Native American					
	Two or More Races	13	0.909	0.553	0.718	0.973
Hastings	White non-Hispanic	500	0.861	0.088	0.837	0.882
	Asian					
	Black non-Hispanic					
	Hispanic	130	0.813	0.172	0.745	0.864
	Native American					
	Two or More Races	16	0.889	0.497	0.703	0.961

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

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Table A4.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part B: Mathematics Tests (3 Years Combined), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	841	0.869	0.068	0.851	0.884
	Asian	34	0.911	0.339	0.827	0.955
	Black non-Hispanic					
	Hispanic	32	0.809	0.349	0.642	0.903
	Native American					
	Two or More Races	39	0.861	0.316	0.749	0.925
Lincoln High	White non-Hispanic	502	0.859	0.088	0.834	0.880
	Asian	130	0.885	0.172	0.841	0.917
	Black non-Hispanic	148	0.812	0.161	0.748	0.860
	Hispanic	158	0.856	0.156	0.808	0.893
	Native American	16	0.864	0.497	0.643	0.952
	Two or More Races	60	0.887	0.254	0.818	0.931
Lincoln NE	White non-Hispanic	699	0.857	0.074	0.836	0.875
	Asian					
	Black non-Hispanic	60	0.797	0.254	0.681	0.874
	Hispanic	68	0.808	0.239	0.705	0.877
	Native American					
	Two or More Races	65	0.791	0.244	0.679	0.868
Lincoln SE	White non-Hispanic	1,065	0.857	0.060	0.840	0.872
	Asian	28	0.720	0.374	0.474	0.861
	Black non-Hispanic	48	0.848	0.285	0.742	0.912
	Hispanic	67	0.839	0.240	0.750	0.898
	Native American	10	0.803	0.632	0.352	0.952
	Two or More Races	69	0.806	0.237	0.704	0.876
Lincoln N Star	White non-Hispanic	739	0.853	0.072	0.832	0.871
	Asian	92	0.839	0.205	0.765	0.891
	Black non-Hispanic	88	0.753	0.210	0.646	0.832
	Hispanic	160	0.850	0.155	0.800	0.888
	Native American	10	0.921	0.632	0.694	0.981
	Two or More Races	49	0.818	0.282	0.698	0.894

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

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Table A4.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part B: Mathematics Tests (3 Years Combined), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	1,046	0.851	0.061	0.833	0.867
	Asian	48	0.869	0.285	0.776	0.925
	Black non-Hispanic	39	0.864	0.316	0.755	0.927
	Hispanic	72	0.770	0.232	0.656	0.850
	Native American					
	Two or More Races	45	0.834	0.294	0.715	0.906
Scottsbluff	White non-Hispanic	302	0.849	0.113	0.814	0.877
	Asian					
	Black non-Hispanic					
	Hispanic	194	0.835	0.141	0.786	0.873
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	199	0.842	0.139	0.796	0.878
	Asian					
	Black non-Hispanic					
	Hispanic	20	0.838	0.444	0.629	0.934
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	238	0.868	0.127	0.833	0.896
	Asian	30	0.828	0.361	0.666	0.915
	Black non-Hispanic	18	0.561	0.468	0.128	0.815
	Hispanic	458	0.772	0.092	0.732	0.806
	Native American	20	0.817	0.444	0.586	0.925
	Two or More Races	16	0.804	0.497	0.512	0.929

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

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Table A4.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part C: Science Tests (3 Years Combined)						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
All Schools	White non-Hispanic	7,158	0.717	0.023	0.705	0.728
	Asian	417	0.822	0.096	0.788	0.851
	Black non-Hispanic	439	0.621	0.094	0.560	0.675
	Hispanic	1,753	0.666	0.047	0.639	0.691
	Native American	101	0.706	0.196	0.592	0.792
	Two or More Races	414	0.697	0.096	0.644	0.743
Alliance	White non-Hispanic	258	0.731	0.122	0.669	0.783
	Asian					
	Black non-Hispanic					
	Hispanic	58	0.700	0.259	0.539	0.811
	Native American					
	Two or More Races	19	0.678	0.456	0.324	0.866
Columbus	White non-Hispanic	505	0.739	0.087	0.696	0.776
	Asian					
	Black non-Hispanic					
	Hispanic	218	0.559	0.133	0.460	0.644
	Native American					
	Two or More Races	11	0.694	0.602	0.162	0.914
Gering	White non-Hispanic	275	0.733	0.118	0.673	0.783
	Asian					
	Black non-Hispanic					
	Hispanic	120	0.677	0.179	0.566	0.763
	Native American					
	Two or More Races	13	0.667	0.553	0.184	0.891
Hastings	White non-Hispanic	500	0.726	0.088	0.682	0.765
	Asian					
	Black non-Hispanic					
	Hispanic	131	0.732	0.172	0.641	0.803
	Native American					
	Two or More Races	16	0.874	0.497	0.666	0.956

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

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Table A4.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part C: Science Tests (3 Years Combined), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln East	White non-Hispanic	841	0.729	0.068	0.696	0.759
	Asian	34	0.874	0.339	0.761	0.936
	Black non-Hispanic					
	Hispanic	32	0.633	0.349	0.365	0.804
	Native American					
	Two or More Races	39	0.721	0.316	0.525	0.845
Lincoln High	White non-Hispanic	502	0.755	0.088	0.715	0.791
	Asian	130	0.762	0.172	0.679	0.826
	Black non-Hispanic	147	0.614	0.162	0.502	0.706
	Hispanic	157	0.734	0.157	0.652	0.799
	Native American	16	0.863	0.497	0.642	0.952
	Two or More Races	60	0.797	0.254	0.681	0.874
Lincoln NE	White non-Hispanic	694	0.727	0.074	0.689	0.760
	Asian					
	Black non-Hispanic	60	0.591	0.254	0.396	0.735
	Hispanic	68	0.668	0.239	0.511	0.782
	Native American					
	Two or More Races	65	0.719	0.244	0.576	0.819
Lincoln SE	White non-Hispanic	1,061	0.710	0.060	0.679	0.739
	Asian	28	0.826	0.374	0.654	0.916
	Black non-Hispanic	47	0.632	0.288	0.422	0.778
	Hispanic	65	0.680	0.244	0.523	0.792
	Native American	10	0.573	0.632	-0.089	0.884
	Two or More Races	69	0.706	0.237	0.564	0.808
Lincoln N Star	White non-Hispanic	739	0.725	0.072	0.689	0.758
	Asian	91	0.801	0.206	0.712	0.864
	Black non-Hispanic	88	0.577	0.210	0.419	0.702
	Hispanic	160	0.704	0.155	0.616	0.774
	Native American	10	0.690	0.632	0.107	0.920
	Two or More Races	49	0.548	0.282	0.316	0.719

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

Continued on the next page.

Table A4.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for Each Racial/Ethnic Group

Part C: Science Tests (3 Years Combined), Continued						
School Population	Student Group	Number of Students Tested ¹	Correlation Coefficient	Critical Value ²	Confidence Interval	
					Lower Limit	Upper Limit
Lincoln SW	White non-Hispanic	1,044	0.658	0.061	0.622	0.691
	Asian	48	0.820	0.285	0.698	0.895
	Black non-Hispanic	39	0.662	0.316	0.438	0.809
	Hispanic	72	0.604	0.232	0.432	0.733
	Native American					
	Two or More Races	45	0.614	0.294	0.391	0.769
Scottsbluff	White non-Hispanic	302	0.750	0.113	0.696	0.795
	Asian					
	Black non-Hispanic					
	Hispanic	194	0.638	0.141	0.547	0.715
	Native American					
	Two or More Races					
Sidney	White non-Hispanic	199	0.741	0.139	0.671	0.798
	Asian					
	Black non-Hispanic					
	Hispanic	20	0.678	0.444	0.336	0.862
	Native American					
	Two or More Races					
South Sioux	White non-Hispanic	238	0.686	0.127	0.612	0.748
	Asian	30	0.830	0.361	0.670	0.916
	Black non-Hispanic	18	0.443	0.468	-0.030	0.754
	Hispanic	458	0.674	0.092	0.620	0.721
	Native American	20	0.703	0.444	0.377	0.874
	Two or More Races	16	0.698	0.497	0.309	0.887

¹All groups of one to nine students are masked (not reported). Groups with no students also are masked, except in the few cases where there were 10 or more students in every other group reported for the school.

²The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. A group is highlighted if its correlation coefficient is less than the critical value.

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Appendix 5

Numbers of Students Tested, Correlation Coefficients, Critical Values, and Confidence Intervals of the Score Correlations of the ACT and NeSA Assessment Tests in Reading, Math, and Science for Each of the 24 Groups Defined by Gender, Income, and Race/Ethnicity

Table A5.1
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part A: Reading Tests (Spring 2012)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	970	0.762	0.063	0.735	0.787
Male, non-low-income white non-Hispanics	997	0.751	0.062	0.722	0.776
Female, low-income white non-Hispanics	229	0.793	0.130	0.739	0.836
Male, low-income white non-Hispanics	208	0.715	0.136	0.642	0.776
Female, non-low-income Asians	48	0.849	0.285	0.744	0.913
Male, non-low-income Asians	43	0.710	0.301	0.521	0.833
Female, low-income Asians	33	0.724	0.344	0.507	0.855
Male, low-income Asians	27	0.717	0.381	0.464	0.862
Female, non-low-income black non-Hispanics	33	0.886	0.344	0.779	0.942
Male, non-low-income black non-Hispanics	20	0.814	0.444	0.581	0.924
Female, low-income black non-Hispanics	58	0.776	0.259	0.648	0.862
Male, low-income black non-Hispanics	53	0.560	0.271	0.341	0.721
Female, non-low-income Hispanics	103	0.716	0.194	0.607	0.799
Male, non-low-income Hispanics	123	0.681	0.177	0.573	0.765
Female, low-income Hispanics	162	0.685	0.154	0.593	0.759
Male, low-income Hispanics	141	0.727	0.165	0.638	0.796
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans	10	0.404	0.632	-0.303	0.824
Male, low-income Native Americans	17	0.538	0.482	0.077	0.809
Female, non-low-income 2 or more races	35	0.720	0.334	0.509	0.850
Male, non-low-income 2 or more races	30	0.846	0.361	0.699	0.925
Female, low-income 2 or more races	28	0.679	0.374	0.409	0.839
Male, low-income 2 or more races	19	0.660	0.456	0.293	0.857

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant, except for the group that is highlighted.

²Groups of one to nine students are masked (not shown).

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Table A5.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part B: Mathematics Tests (Spring 2012)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	971	0.850	0.063	0.832	0.867
Male, non-low-income white non-Hispanics	997	0.871	0.062	0.855	0.885
Female, low-income white non-Hispanics	229	0.755	0.130	0.694	0.806
Male, low-income white non-Hispanics	208	0.834	0.136	0.787	0.871
Female, non-low-income Asians	48	0.872	0.285	0.782	0.927
Male, non-low-income Asians	43	0.794	0.301	0.647	0.883
Female, low-income Asians	32	0.849	0.349	0.710	0.924
Male, low-income Asians	27	0.874	0.381	0.739	0.941
Female, non-low-income black non-Hispanics	33	0.944	0.344	0.889	0.972
Male, non-low-income black non-Hispanics	21	0.767	0.433	0.501	0.901
Female, low-income black non-Hispanics	58	0.814	0.259	0.704	0.886
Male, low-income black non-Hispanics	53	0.801	0.271	0.678	0.881
Female, non-low-income Hispanics	103	0.831	0.194	0.759	0.882
Male, non-low-income Hispanics	123	0.808	0.177	0.736	0.862
Female, low-income Hispanics	162	0.762	0.154	0.689	0.820
Male, low-income Hispanics	142	0.777	0.165	0.702	0.835
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans	10	0.740	0.632	0.206	0.934
Male, low-income Native Americans	17	0.885	0.482	0.704	0.958
Female, non-low-income 2 or more races	35	0.854	0.334	0.727	0.924
Male, non-low-income 2 or more races	30	0.828	0.361	0.667	0.915
Female, low-income 2 or more races	28	0.685	0.374	0.419	0.843
Male, low-income 2 or more races	18	0.856	0.468	0.649	0.945

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant.

²Groups of one to nine students are masked (not shown).

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Table A5.1, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part C: Science Tests (Spring 2012)

Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	969	0.680	0.063	0.645	0.713
Male, non-low-income white non-Hispanics	996	0.703	0.062	0.670	0.733
Female, low-income white non-Hispanics	229	0.584	0.130	0.491	0.663
Male, low-income white non-Hispanics	208	0.670	0.136	0.587	0.739
Female, non-low-income Asians	48	0.826	0.285	0.708	0.899
Male, non-low-income Asians	42	0.790	0.304	0.640	0.882
Female, low-income Asians	32	0.594	0.349	0.310	0.781
Male, low-income Asians	27	0.639	0.381	0.342	0.820
Female, non-low-income black non-Hispanics	33	0.822	0.344	0.668	0.909
Male, non-low-income black non-Hispanics	20	0.559	0.444	0.154	0.803
Female, low-income black non-Hispanics	58	0.730	0.259	0.582	0.832
Male, low-income black non-Hispanics	53	0.672	0.271	0.491	0.798
Female, non-low-income Hispanics	103	0.694	0.194	0.578	0.782
Male, non-low-income Hispanics	122	0.651	0.178	0.535	0.743
Female, low-income Hispanics	160	0.616	0.155	0.510	0.704
Male, low-income Hispanics	142	0.614	0.165	0.500	0.707
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans	10	0.028	0.632	-0.612	0.646
Male, low-income Native Americans	17	0.689	0.482	0.312	0.879
Female, non-low-income 2 or more races	35	0.589	0.334	0.319	0.771
Male, non-low-income 2 or more races	30	0.816	0.361	0.646	0.909
Female, low-income 2 or more races	28	0.682	0.374	0.415	0.841
Male, low-income 2 or more races	18	0.801	0.468	0.534	0.923

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant, except for the group that is highlighted.

²Groups of one to nine students are masked (not shown).

Table A5.2
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part A: Reading Tests (Spring 2013)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	958	0.766	0.063	0.738	0.791
Male, non-low-income white non-Hispanics	999	0.737	0.062	0.708	0.764
Female, low-income white non-Hispanics	233	0.771	0.129	0.713	0.819
Male, low-income white non-Hispanics	205	0.738	0.137	0.669	0.795
Female, non-low-income Asians	30	0.755	0.361	0.542	0.877
Male, non-low-income Asians	39	0.874	0.316	0.771	0.932
Female, low-income Asians	30	0.892	0.361	0.783	0.947
Male, low-income Asians	35	0.731	0.334	0.525	0.856
Female, non-low-income black non-Hispanics	20	0.816	0.444	0.585	0.925
Male, non-low-income black non-Hispanics	23	0.757	0.413	0.500	0.891
Female, low-income black non-Hispanics	41	0.820	0.308	0.685	0.900
Male, low-income black non-Hispanics	39	0.680	0.316	0.464	0.820
Female, non-low-income Hispanics	115	0.770	0.183	0.683	0.835
Male, non-low-income Hispanics	115	0.682	0.183	0.571	0.769
Female, low-income Hispanics	184	0.700	0.145	0.618	0.767
Male, low-income Hispanics	148	0.704	0.161	0.612	0.777
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans					
Male, low-income Native Americans	12	0.789	0.576	0.393	0.938
Female, non-low-income 2 or more races	44	0.801	0.297	0.662	0.887
Male, non-low-income 2 or more races	46	0.750	0.291	0.587	0.854
Female, low-income 2 or more races	36	0.765	0.329	0.583	0.874
Male, low-income 2 or more races	22	0.786	0.423	0.545	0.907

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant.

²Groups of one to nine students are masked (not shown).

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Table A5.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part B: Mathematics Tests (Spring 2013)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	958	0.870	0.063	0.854	0.884
Male, non-low-income white non-Hispanics	1,000	0.855	0.062	0.838	0.871
Female, low-income white non-Hispanics	234	0.838	0.128	0.795	0.872
Male, low-income white non-Hispanics	206	0.816	0.137	0.764	0.857
Female, non-low-income Asians	30	0.812	0.361	0.638	0.907
Male, non-low-income Asians	39	0.875	0.316	0.773	0.933
Female, low-income Asians	31	0.929	0.355	0.856	0.965
Male, low-income Asians	36	0.845	0.329	0.715	0.918
Female, non-low-income black non-Hispanics	20	0.812	0.444	0.577	0.923
Male, non-low-income black non-Hispanics	23	0.855	0.413	0.684	0.937
Female, low-income black non-Hispanics	41	0.619	0.308	0.384	0.778
Male, low-income black non-Hispanics	39	0.716	0.316	0.518	0.842
Female, non-low-income Hispanics	116	0.837	0.182	0.772	0.884
Male, non-low-income Hispanics	115	0.814	0.183	0.741	0.868
Female, low-income Hispanics	183	0.787	0.145	0.725	0.837
Male, low-income Hispanics	148	0.842	0.161	0.788	0.883
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans					
Male, low-income Native Americans	12	0.435	0.576	-0.185	0.807
Female, non-low-income 2 or more races	44	0.875	0.297	0.781	0.930
Male, non-low-income 2 or more races	46	0.874	0.291	0.782	0.929
Female, low-income 2 or more races	36	0.872	0.329	0.762	0.933
Male, low-income 2 or more races	22	0.801	0.423	0.572	0.914

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant, except for the group that is highlighted.

²Groups of one to nine students are masked (not shown).

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Table A5.2, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2013
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part C: Science Tests (Spring 2013)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	958	0.747	0.063	0.718	0.774
Male, non-low-income white non-Hispanics	999	0.700	0.062	0.667	0.731
Female, low-income white non-Hispanics	233	0.700	0.129	0.628	0.760
Male, low-income white non-Hispanics	205	0.711	0.137	0.636	0.773
Female, non-low-income Asians	30	0.859	0.361	0.723	0.931
Male, non-low-income Asians	39	0.853	0.316	0.735	0.921
Female, low-income Asians	31	0.894	0.355	0.790	0.948
Male, low-income Asians	36	0.686	0.329	0.461	0.828
Female, non-low-income black non-Hispanics	20	0.653	0.444	0.297	0.850
Male, non-low-income black non-Hispanics	23	0.632	0.413	0.298	0.829
Female, low-income black non-Hispanics	41	0.493	0.308	0.218	0.695
Male, low-income black non-Hispanics	39	0.447	0.316	0.154	0.669
Female, non-low-income Hispanics	115	0.747	0.183	0.654	0.818
Male, non-low-income Hispanics	115	0.767	0.183	0.679	0.833
Female, low-income Hispanics	184	0.509	0.145	0.393	0.609
Male, low-income Hispanics	148	0.648	0.161	0.543	0.733
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans					
Male, low-income Native Americans	12	0.737	0.576	0.283	0.921
Female, non-low-income 2 or more races	44	0.613	0.297	0.386	0.770
Male, non-low-income 2 or more races	46	0.825	0.291	0.702	0.900
Female, low-income 2 or more races	36	0.693	0.329	0.472	0.832
Male, low-income 2 or more races	22	0.581	0.423	0.211	0.805

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant.

²Groups of one to nine students are masked (not shown).

Table A5.3
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part A: Reading Tests (Spring 2014)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	870	0.769	0.066	0.741	0.795
Male, non-low-income white non-Hispanics	871	0.763	0.066	0.734	0.789
Female, low-income white non-Hispanics	324	0.765	0.109	0.716	0.807
Male, low-income white non-Hispanics	299	0.728	0.113	0.669	0.777
Female, non-low-income Asians	33	0.915	0.344	0.833	0.958
Male, non-low-income Asians	23	0.823	0.413	0.621	0.922
Female, low-income Asians	34	0.858	0.339	0.733	0.927
Male, low-income Asians	42	0.745	0.304	0.570	0.855
Female, non-low-income black non-Hispanics	14	0.642	0.532	0.169	0.875
Male, non-low-income black non-Hispanics	13	0.927	0.553	0.769	0.978
Female, low-income black non-Hispanics	59	0.755	0.256	0.619	0.847
Male, low-income black non-Hispanics	67	0.618	0.240	0.443	0.747
Female, non-low-income Hispanics	84	0.815	0.215	0.728	0.876
Male, non-low-income Hispanics	91	0.762	0.206	0.660	0.837
Female, low-income Hispanics	252	0.725	0.124	0.661	0.779
Male, low-income Hispanics	238	0.701	0.127	0.631	0.761
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans	11	0.745	0.602	0.262	0.929
Male, low-income Native Americans	10	0.911	0.632	0.661	0.979
Female, non-low-income 2 or more races	30	0.734	0.361	0.508	0.865
Male, non-low-income 2 or more races	41	0.628	0.308	0.397	0.784
Female, low-income 2 or more races	45	0.642	0.294	0.429	0.787
Male, low-income 2 or more races	39	0.375	0.316	0.067	0.617

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant.

²Groups of one to nine students are masked (not shown).

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Table A5.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2014
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part B: Mathematics Tests (Spring 2014)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	870	0.855	0.066	0.836	0.872
Male, non-low-income white non-Hispanics	871	0.863	0.066	0.845	0.879
Female, low-income white non-Hispanics	325	0.823	0.109	0.784	0.855
Male, low-income white non-Hispanics	300	0.813	0.113	0.770	0.848
Female, non-low-income Asians	33	0.867	0.344	0.745	0.933
Male, non-low-income Asians	23	0.785	0.413	0.551	0.904
Female, low-income Asians	34	0.874	0.339	0.761	0.936
Male, low-income Asians	42	0.903	0.304	0.826	0.947
Female, non-low-income black non-Hispanics	14	0.750	0.532	0.364	0.916
Male, non-low-income black non-Hispanics	13	0.793	0.553	0.430	0.935
Female, low-income black non-Hispanics	59	0.870	0.256	0.790	0.921
Male, low-income black non-Hispanics	67	0.747	0.240	0.617	0.837
Female, non-low-income Hispanics	82	0.820	0.217	0.733	0.880
Male, non-low-income Hispanics	91	0.838	0.206	0.765	0.891
Female, low-income Hispanics	252	0.786	0.124	0.733	0.829
Male, low-income Hispanics	237	0.794	0.127	0.741	0.836
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans	11	0.742	0.602	0.256	0.929
Male, low-income Native Americans	10	0.828	0.632	0.414	0.958
Female, non-low-income 2 or more races	30	0.904	0.361	0.807	0.954
Male, non-low-income 2 or more races	41	0.845	0.308	0.726	0.915
Female, low-income 2 or more races	45	0.821	0.294	0.694	0.898
Male, low-income 2 or more races	39	0.748	0.316	0.566	0.860

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant.

²Groups of one to nine students are masked (not shown).

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Table A5.3, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science Taken in Spring 2012
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part C: Science Tests (Spring 2014)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	870	0.680	0.066	0.643	0.714
Male, non-low-income white non-Hispanics	870	0.708	0.066	0.673	0.740
Female, low-income white non-Hispanics	323	0.706	0.109	0.647	0.757
Male, low-income white non-Hispanics	298	0.674	0.114	0.607	0.732
Female, non-low-income Asians	33	0.756	0.344	0.557	0.873
Male, non-low-income Asians	23	0.743	0.413	0.477	0.885
Female, low-income Asians	34	0.775	0.339	0.593	0.882
Male, low-income Asians	42	0.820	0.304	0.687	0.900
Female, non-low-income black non-Hispanics	14	0.300	0.532	-0.275	0.716
Male, non-low-income black non-Hispanics	13	0.850	0.553	0.563	0.954
Female, low-income black non-Hispanics	58	0.437	0.259	0.202	0.625
Male, low-income black non-Hispanics	67	0.602	0.240	0.423	0.736
Female, non-low-income Hispanics	83	0.674	0.216	0.536	0.776
Male, non-low-income Hispanics	91	0.585	0.206	0.431	0.706
Female, low-income Hispanics	252	0.670	0.124	0.596	0.733
Male, low-income Hispanics	238	0.669	0.127	0.592	0.734
Female, non-low-income Native Americans					
Male, non-low-income Native Americans					
Female, low-income Native Americans	11	0.576	0.602	-0.037	0.874
Male, low-income Native Americans	10	0.871	0.632	0.535	0.969
Female, non-low-income 2 or more races	30	0.745	0.361	0.526	0.871
Male, non-low-income 2 or more races	41	0.780	0.308	0.622	0.877
Female, low-income 2 or more races	45	0.630	0.294	0.413	0.779
Male, low-income 2 or more races	39	0.403	0.316	0.101	0.638

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant, except for the two groups that are highlighted.

²Groups of one to nine students are masked (not shown).

Table A5.4
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part A: Reading Tests (3 Years Combined)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	2,798	0.767	0.037	0.751	0.782
Male, non-low-income white non-Hispanics	2,867	0.748	0.037	0.732	0.764
Female, low-income white non-Hispanics	786	0.776	0.070	0.746	0.802
Male, low-income white non-Hispanics	712	0.732	0.073	0.696	0.764
Female, non-low-income Asians	111	0.850	0.187	0.789	0.895
Male, non-low-income Asians	105	0.809	0.192	0.731	0.867
Female, low-income Asians	97	0.834	0.200	0.761	0.886
Male, low-income Asians	104	0.736	0.193	0.634	0.814
Female, non-low-income black non-Hispanics	67	0.823	0.240	0.726	0.888
Male, non-low-income black non-Hispanics	56	0.795	0.263	0.672	0.875
Female, low-income black non-Hispanics	158	0.783	0.156	0.714	0.837
Male, low-income black non-Hispanics	159	0.633	0.156	0.529	0.718
Female, non-low-income Hispanics	302	0.768	0.113	0.717	0.811
Male, non-low-income Hispanics	329	0.704	0.108	0.646	0.755
Female, low-income Hispanics	598	0.711	0.080	0.669	0.749
Male, low-income Hispanics	527	0.709	0.085	0.663	0.749
Female, non-low-income Native Americans	18	0.438	0.468	-0.037	0.751
Male, non-low-income Native Americans	14	0.651	0.532	0.184	0.878
Female, low-income Native Americans	30	0.701	0.361	0.457	0.848
Male, low-income Native Americans	39	0.757	0.316	0.581	0.866
Female, non-low-income 2 or more races	109	0.759	0.188	0.666	0.829
Male, non-low-income 2 or more races	117	0.746	0.182	0.652	0.817
Female, low-income 2 or more races	109	0.702	0.188	0.592	0.786
Male, low-income 2 or more races	80	0.532	0.220	0.353	0.673

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant, except for the group that is highlighted.

²Groups of one to nine students are masked (not shown).

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Table A5.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part B: Mathematics Tests (3 Years Combined)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	2,799	0.857	0.037	0.847	0.867
Male, non-low-income white non-Hispanics	2,868	0.860	0.037	0.850	0.869
Female, low-income white non-Hispanics	788	0.812	0.070	0.786	0.834
Male, low-income white non-Hispanics	714	0.818	0.073	0.792	0.841
Female, non-low-income Asians	111	0.849	0.187	0.788	0.894
Male, non-low-income Asians	105	0.822	0.192	0.749	0.876
Female, low-income Asians	97	0.886	0.200	0.834	0.922
Male, low-income Asians	105	0.874	0.192	0.819	0.913
Female, non-low-income black non-Hispanics	67	0.872	0.240	0.799	0.919
Male, non-low-income black non-Hispanics	57	0.823	0.261	0.716	0.892
Female, low-income black non-Hispanics	158	0.791	0.156	0.725	0.843
Male, low-income black non-Hispanics	159	0.747	0.156	0.669	0.809
Female, non-low-income Hispanics	301	0.823	0.113	0.783	0.857
Male, non-low-income Hispanics	329	0.819	0.108	0.780	0.852
Female, low-income Hispanics	597	0.779	0.080	0.746	0.809
Male, low-income Hispanics	527	0.803	0.085	0.770	0.831
Female, non-low-income Native Americans	18	0.749	0.468	0.434	0.901
Male, non-low-income Native Americans	14	0.888	0.532	0.676	0.964
Female, low-income Native Americans	30	0.806	0.361	0.629	0.904
Male, low-income Native Americans	39	0.820	0.316	0.680	0.902
Female, non-low-income 2 or more races	109	0.871	0.188	0.816	0.910
Male, non-low-income 2 or more races	117	0.849	0.182	0.789	0.893
Female, low-income 2 or more races	109	0.803	0.188	0.725	0.861
Male, low-income 2 or more races	79	0.774	0.221	0.667	0.850

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant.

²Groups of one to nine students are masked (not shown).

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Table A5.4, Continued
Score Correlations of the ACT and NeSA Assessment Tests
in Reading, Math, and Science for 3 Years of Testing Combined
for the 24 Student Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part C: Science Tests (3 Years Combined)					
Student Group	Number of Students Tested ²	Correlation Coefficient	Critical Value ¹	Confidence Interval	
				Lower Limit	Upper Limit
Female, non-low-income white non-Hispanics	2,797	0.704	0.037	0.685	0.723
Male, non-low-income white non-Hispanics	2,865	0.703	0.037	0.683	0.721
Female, low-income white non-Hispanics	785	0.676	0.070	0.637	0.713
Male, low-income white non-Hispanics	711	0.689	0.074	0.648	0.726
Female, non-low-income Asians	111	0.814	0.187	0.740	0.868
Male, non-low-income Asians	104	0.820	0.193	0.745	0.874
Female, low-income Asians	97	0.767	0.200	0.670	0.838
Male, low-income Asians	105	0.750	0.192	0.652	0.823
Female, non-low-income black non-Hispanics	67	0.640	0.240	0.472	0.763
Male, non-low-income black non-Hispanics	56	0.656	0.263	0.475	0.784
Female, low-income black non-Hispanics	157	0.572	0.157	0.456	0.669
Male, low-income black non-Hispanics	159	0.593	0.156	0.482	0.685
Female, non-low-income Hispanics	301	0.707	0.113	0.646	0.759
Male, non-low-income Hispanics	328	0.680	0.108	0.617	0.734
Female, low-income Hispanics	596	0.619	0.080	0.566	0.666
Male, low-income Hispanics	528	0.646	0.085	0.593	0.693
Female, non-low-income Native Americans	18	0.517	0.468	0.066	0.792
Male, non-low-income Native Americans	14	0.728	0.532	0.321	0.908
Female, low-income Native Americans	30	0.556	0.361	0.245	0.763
Male, low-income Native Americans	39	0.789	0.316	0.630	0.884
Female, non-low-income 2 or more races	109	0.615	0.188	0.483	0.720
Male, non-low-income 2 or more races	117	0.801	0.182	0.725	0.858
Female, low-income 2 or more races	109	0.657	0.188	0.535	0.752
Male, low-income 2 or more races	79	0.562	0.221	0.390	0.697

¹The critical value is the value that the correlation coefficient must equal or exceed for statistical significance at the 0.05 level of probability. In this table, the correlation coefficients of all groups exceed their critical values and are statistically significant.

²Groups of one to nine students are masked (not shown).

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Appendix 6

The 2012, 2013, and 2014 Comparative Analyses of the Score Correlations of the ACT and NeSA Assessment Tests in Reading, Math, and Science for the 24 Groups Defined by Gender, Income, and Race/Ethnicity

Introduction

For each of the three years of testing, a detailed, comparative analysis was conducted to test the hypothesis that the scores on the ACT and NeSA tests in reading, mathematics, and science were equally correlated for the 24 groups defined by gender, income, and race/ethnicity. After excluding the groups with fewer than 20 students, there were 18 to 20 student groups compared each year.

For each year of testing and for each of the three content areas of testing, the correlation coefficient for each group was compared to the correlation coefficient for each of the other groups with 20 or more students. For the 19 groups of students in 2012, a total of 513 pairs of correlation coefficients were compared. Of these 513 pairs, the differences between the correlation coefficients in 76 (14.8%) of the comparisons were statistically significant at the 0.05 level of probability. Of the 570 valid comparisons of the correlations of scores on the tests taken by 20 groups in 2013, 105 (18.4%) were pairs of coefficients that were significantly different, using a 0.05 level of probability as the criterion for statistical significance. Likewise, of the 459 comparisons required for the 18 groups in 2014, 88 (19.2%) were pairs of coefficients that were significantly different.

Beginning on the page after next, [Table A6.1](#) for the reading tests, [Table A6.2](#) for the math tests, and [Table A6.3](#) for the science tests summarize the findings of the comparative analysis of the correlations calculated for the groups of students defined by gender, income, and race/ethnicity. Each table reports the correlation coefficients for the groups in rank order, from the highest to the lowest, for the tests in reading, math, or science taken in 2012, 2013, or 2014. Since sample size affects whether a difference between two correlation coefficients is statistically significant, the number of students tested in each group also is reported in each table.

Color codes are used in the tables to visually report the differences between correlation coefficients that were found to be statistically significant. For example, [Part A of Table A6.1](#) shows that the correlations of scores on the ACT and NeSA reading tests taken in 2012 ranged from 0.886 down to 0.560. The correlation of 0.886 is highlighted in light orange, and the same color is used to fill the squares next to the 11 correlation coefficients that were significantly lower than the 0.886 correlation. As another example, the next highest correlation of 0.849 is highlighted in light green, and the same color is used to fill the squares next to the five correlation coefficients that were significantly lower than the 0.849 correlation.

The series of tables beginning with [Table A6.1](#) show that there were at least two score correlations or as many as 11 correlations that were significantly higher than two or three of the lowest correlations, depending on the year and content area of testing. These findings clearly indicate that the tests in **reading**, **mathematics**, and **science** were not equally correlated in 2012, 2013, or 2014 for the 18 to 20 groups defined by gender, income, and race/ethnicity that were compared. For each of the three years and for each of the three content areas, the score correlations for two or more groups were significantly higher or lower than the score correlations for other groups.

Over the three years of testing, there was no single group with consistently higher score correlations than any other group. However, the three highest correlations were consistently for groups of fewer than 50 for each of the three years and for all three content areas of testing. Furthermore, of the 27 highest score correlations (three for each year and content area), 18 were for Asians: five for female, non-low-income Asians; four for male, non-low-income Asians; six for female, low-income Asians; and three for male, low-income Asians.

At the other end of the continuum, the lowest score correlation also was for a group with a small sample size, ranging from 20 to 67 students, depending on the year or test content. The group with the lowest score correlation varied from one year to the next and from one content area of testing to another. However, the lowest score correlations were most frequently for male, low-income black non-Hispanics or for male, low-income students of two or more races.

Directly comparing the ranges of score correlations as shown below indicated that there was no consistent pattern by year of testing or by content area. The widest range of correlations was for the reading tests taken in 2014, while the narrowest range was for the mathematics tests taken the same year. Also, it is interesting to note that the highest score correlation for the science tests administered in spring 2013 was exactly twice the size of the lowest correlation.

Content Area of Testing	Year of Testing	Lowest Score Correlation	Highest Score Correlation	Difference Between the Lowest and Highest Score Correlation
Reading	2012	0.560	0.886	0.326
	2013	0.680	0.892	0.212
	2014	0.375	0.915	0.540
Mathematics	2012	0.685	0.944	0.259
	2013	0.619	0.929	0.310
	2014	0.747	0.904	0.157
Science	2012	0.559	0.826	0.267
	2013	0.447	0.894	0.447
	2014	0.403	0.820	0.417

Table A6.1 Comparison of Score Correlations of the ACT and NeSA Assessment Tests in <u>Reading</u> for the Groups Defined by Gender, Income, and Race/Ethnicity <u>All Pilot Schools Combined</u>										
Part A: Reading Tests (Spring 2012)										
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order ¹	Code indicating that the color- highlighted r is significantly higher				
Female	Non-low-income	Black non-Hispanics	2012	33	0.886					
Female	Non-low-income	Asians	2012	48	0.849					
Male	Non-low-income	2 or More Races	2012	30	0.846					
Male	Non-low-income	Black non-Hispanics	2012	20	0.814					
Female	Low-income	White non-Hispanics	2012	229	0.793					
Female	Low-income	Black non-Hispanics	2012	58	0.776					
Female	Non-low-income	White non-Hispanics	2012	970	0.762					
Male	Non-low-income	White non-Hispanics	2012	997	0.751					
Male	Low-income	Hispanics	2012	141	0.727					
Female	Low-income	Asians	2012	33	0.724					
Female	Non-low-income	2 or More Races	2012	35	0.720					
Male	Low-income	Asians	2012	27	0.717					
Female	Non-low-income	Hispanics	2012	103	0.716					
Male	Low-income	White non-Hispanics	2012	208	0.715					
Male	Non-low-income	Asians	2012	43	0.710					
Female	Low-income	Hispanics	2012	162	0.685					
Male	Non-low-income	Hispanics	2012	123	0.681					
Female	Low-income	2 or More Races	2012	28	0.679					
Male	Low-income	Black non-Hispanics	2012	53	0.560					

¹The correlations of 0.776, 0.762, and 0.751 were all significantly higher than the 0.560 correlation.

Continued on the next page.

Table A6.1, Continued Comparison of Score Correlations of the ACT and NeSA Assessment Tests in <u>Reading</u> for the Groups Defined by Gender, Income, and Race/Ethnicity All Pilot Schools Combined						
Part B: Reading Tests (Spring 2013)						
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order	Code indicating that the color-highlighted r is significantly higher
Female	Low-income	Asians	2013	30	0.892	
Male	Non-low-income	Asians	2013	39	0.874	
Female	Low-income	Black non-Hispanics	2013	41	0.820	
Female	Non-low-income	Black non-Hispanics	2013	20	0.816	
Female	Non-low-income	2 or More Races	2013	44	0.801	
Male	Low-income	2 or More Races	2013	22	0.786	
Female	Low-income	White non-Hispanics	2013	233	0.771	
Female	Non-low-income	Hispanics	2013	115	0.770	
Female	Non-low-income	White non-Hispanics	2013	958	0.766	
Female	Low-income	2 or More Races	2013	36	0.765	
Male	Non-low-income	Black non-Hispanics	2013	23	0.757	
Female	Non-low-income	Asians	2013	30	0.755	
Male	Non-low-income	2 or More Races	2013	46	0.750	
Male	Low-income	White non-Hispanics	2013	205	0.738	
Male	Non-low-income	White non-Hispanics	2013	999	0.737	
Male	Low-income	Asians	2013	35	0.731	
Male	Low-income	Hispanics	2013	148	0.704	
Female	Low-income	Hispanics	2013	184	0.700	
Male	Non-low-income	Hispanics	2013	115	0.682	
Male	Low-income	Black non-Hispanics	2013	39	0.680	

Continued on the next page.

Table A6.1, Continued Comparison of Score Correlations of the ACT and NeSA Assessment Tests in <u>Reading</u> for the Groups Defined by Gender, Income, and Race/Ethnicity All Pilot Schools Combined										
Part C: Reading Tests (Spring 2014)										
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order ¹	Code indicating that the color-highlighted r is significantly higher				
Female	Non-low-income	Asians	2014	33	0.915					
Female	Low-income	Asians	2014	34	0.858					
Male	Non-low-income	Asians	2014	23	0.823					
Female	Non-low-income	Hispanics	2014	84	0.815					
Female	Non-low-income	White non-Hispanics	2014	870	0.769					
Female	Low-income	White non-Hispanics	2014	324	0.765					
Male	Non-low-income	White non-Hispanics	2014	871	0.763					
Male	Non-low-income	Hispanics	2014	91	0.762					
Female	Low-income	Black non-Hispanics	2014	59	0.755					
Male	Low-income	Asians	2014	42	0.745					
Female	Non-low-income	2 or More Races	2014	30	0.734					
Male	Low-income	White non-Hispanics	2014	299	0.728					
Female	Low-income	Hispanics	2014	252	0.725					
Male	Low-income	Hispanics	2014	238	0.701					
Female	Low-income	2 or More Races	2014	45	0.642					
Male	Non-low-income	2 or More Races	2014	41	0.628					
Male	Low-income	Black non-Hispanics	2014	67	0.618					
Male	Low-income	2 or More Races	2014	39	0.375					

¹The seven correlations ranging from 0.762 down to 0.701 were all significantly higher than the lowest correlation of 0.375.

Table A6.2
Comparison of Score Correlations of the ACT and NeSA Assessment Tests
in Mathematics for the Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part A: Mathematics Tests (Spring 2012)										
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order	Code indicating that the color-highlighted r is significantly higher				
Female	Non-low-income	Black non-Hispanics	2012	33	0.944					
Male	Low-income	Asians	2012	27	0.874					
Female	Non-low-income	Asians	2012	48	0.872					
Male	Non-low-income	White non-Hispanics	2012	997	0.871					
Female	Non-low-income	2 or More Races	2012	35	0.854					
Female	Non-low-income	White non-Hispanics	2012	971	0.850					
Female	Low-income	Asians	2012	32	0.849					
Male	Low-income	White non-Hispanics	2012	208	0.834					
Female	Non-low-income	Hispanics	2012	103	0.831					
Male	Non-low-income	2 or More Races	2012	30	0.828					
Female	Low-income	Black non-Hispanics	2012	58	0.814					
Male	Non-low-income	Hispanics	2012	123	0.808					
Male	Low-income	Black non-Hispanics	2012	53	0.801					
Male	Non-low-income	Asians	2012	43	0.794					
Male	Low-income	Hispanics	2012	142	0.777					
Male	Non-low-income	Black non-Hispanics	2012	21	0.767					
Female	Low-income	Hispanics	2012	162	0.762					
Female	Low-income	White non-Hispanics	2012	229	0.755					
Female	Low-income	2 or More Races	2012	28	0.685					

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Table A6.2, Continued
Comparison of Score Correlations of the ACT and NeSA Assessment Tests
in Mathematics for the Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part B: Mathematics Tests (Spring 2013)						
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order ¹	Code indicating that the color-highlighted r is significantly higher
Female	Low-income	Asians	2013	31	0.929	
Female	Non-low-income	2 or More Races	2013	44	0.875	
Male	Non-low-income	Asians	2013	39	0.875	
Male	Non-low-income	2 or More Races	2013	46	0.874	
Female	Low-income	2 or More Races	2013	36	0.872	
Female	Non-low-income	White non-Hispanics	2013	958	0.870	
Male	Non-low-income	White non-Hispanics	2013	1,000	0.855	
Male	Non-low-income	Black non-Hispanics	2013	23	0.855	
Male	Low-income	Asians	2013	36	0.845	
Male	Low-income	Hispanics	2013	148	0.842	
Female	Low-income	White non-Hispanics	2013	234	0.838	
Female	Non-low-income	Hispanics	2013	116	0.837	
Male	Low-income	White non-Hispanics	2013	206	0.816	
Male	Non-low-income	Hispanics	2013	115	0.814	
Female	Non-low-income	Black non-Hispanics	2013	20	0.812	
Female	Non-low-income	Asians	2013	30	0.812	
Male	Low-income	2 or More Races	2013	22	0.801	
Female	Low-income	Hispanics	2013	183	0.787	
Male	Low-income	Black non-Hispanics	2013	39	0.716	
Female	Low-income	Black non-Hispanics	2013	41	0.619	

¹The seven correlations ranging from 0.855 down to 0.814 were all significantly higher than the lowest correlation of 0.619.

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Table A6.2, Continued
Comparison of Score Correlations of the ACT and NeSA Assessment Tests
in Mathematics for the Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part C: Mathematics Tests (Spring 2014)										
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order	Code indicating that the color-highlighted r is significantly higher				
Female	Non-low-income	2 or More Races	2014	30	0.904					
Male	Low-income	Asians	2014	42	0.903					
Female	Low-income	Asians	2014	34	0.874					
Female	Low-income	Black non-Hispanics	2014	59	0.870					
Female	Non-low-income	Asians	2014	33	0.867					
Male	Non-low-income	White non-Hispanics	2014	871	0.863					
Female	Non-low-income	White non-Hispanics	2014	870	0.855					
Male	Non-low-income	2 or More Races	2014	41	0.845					
Male	Non-low-income	Hispanics	2014	91	0.838					
Female	Low-income	White non-Hispanics	2014	325	0.823					
Female	Low-income	2 or More Races	2014	45	0.821					
Female	Non-low-income	Hispanics	2014	82	0.820					
Male	Low-income	White non-Hispanics	2014	300	0.813					
Male	Low-income	Hispanics	2014	237	0.794					
Female	Low-income	Hispanics	2014	252	0.786					
Male	Non-low-income	Asians	2014	23	0.785					
Male	Low-income	2 or More Races	2014	39	0.748					
Male	Low-income	Black non-Hispanics	2014	67	0.747					

Table A6.3 Comparison of Score Correlations of the ACT and NeSA Assessment Tests in <u>Science</u> for the Groups Defined by Gender, Income, and Race/Ethnicity <u>All Pilot Schools Combined</u>						
Part A: Science Tests (Spring 2012)						
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order	Code indicating that the color-highlighted r is significantly higher
Female	Non-low-income	Asians	2012	48	0.826	
Female	Non-low-income	Black non-Hispanics	2012	33	0.822	
Male	Non-low-income	2 or More Races	2012	30	0.816	
Male	Non-low-income	Asians	2012	42	0.790	
Female	Low-income	Black non-Hispanics	2012	58	0.730	
Male	Non-low-income	White non-Hispanics	2012	996	0.703	
Female	Non-low-income	Hispanics	2012	103	0.694	
Female	Low-income	2 or More Races	2012	28	0.682	
Female	Non-low-income	White non-Hispanics	2012	969	0.680	
Male	Low-income	Black non-Hispanics	2012	53	0.672	
Male	Low-income	White non-Hispanics	2012	208	0.670	
Male	Non-low-income	Hispanics	2012	122	0.651	
Male	Low-income	Asians	2012	27	0.639	
Female	Low-income	Hispanics	2012	160	0.616	
Male	Low-income	Hispanics	2012	142	0.614	
Female	Low-income	Asians	2012	32	0.594	
Female	Non-low-income	2 or More Races	2012	35	0.589	
Female	Low-income	White non-Hispanics	2012	229	0.584	
Male	Non-low-income	Black non-Hispanics	2012	20	0.559	

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Table A6.3, Continued
Comparison of Score Correlations of the ACT and NeSA Assessment Tests
in Science for the Groups Defined by Gender, Income, and Race/Ethnicity
All Pilot Schools Combined

Part B: Science Tests (Spring 2013)						
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order ¹	Code indicating that the color-highlighted r is significantly higher
Female	Low-income	Asians	2013	31	0.894	
Female	Non-low-income	Asians	2013	30	0.859	
Male	Non-low-income	Asians	2013	39	0.853	
Male	Non-low-income	2 or More Races	2013	46	0.825	
Male	Non-low-income	Hispanics	2013	115	0.767	
Female	Non-low-income	Hispanics	2013	115	0.747	
Female	Non-low-income	White non-Hispanics	2013	958	0.747	
Male	Low-income	White non-Hispanics	2013	205	0.711	
Male	Non-low-income	White non-Hispanics	2013	999	0.700	
Female	Low-income	White non-Hispanics	2013	233	0.700	
Female	Low-income	2 or More Races	2013	36	0.693	
Male	Low-income	Asians	2013	36	0.686	
Female	Non-low-income	Black non-Hispanics	2013	20	0.653	
Male	Low-income	Hispanics	2013	148	0.648	
Male	Non-low-income	Black non-Hispanics	2013	23	0.632	
Female	Non-low-income	2 or More Races	2013	44	0.613	
Male	Low-income	2 or More Races	2013	22	0.581	
Female	Low-income	Hispanics	2013	184	0.509	
Female	Low-income	Black non-Hispanics	2013	41	0.493	
Male	Low-income	Black non-Hispanics	2013	39	0.447	

¹The three un-highlighted correlations of 0.747 (based on a sample of 115), 0.711, and 0.700 (based on a sample of 999) also were significantly higher than the three lowest correlations of 0.509, 0.493, and 0.447. The correlation of 0.700, based on a sample of 233, was not significantly higher than the three lowest correlations.

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Table A6.3, <u>Continued</u>										
Comparison of Score Correlations of the ACT and NeSA Assessment Tests in <u>Science</u> for the Groups Defined by Gender, Income, and Race/Ethnicity										
<u>All Pilot Schools Combined</u>										
Part C: Science Tests (Spring 2014)										
Groups Defined by Gender, Income, and Race/Ethnicity			Year Tested	No. of Students Tested	r values in rank order ¹	Code indicating that the color-highlighted r is significantly higher				
Male	Low-income	Asians	2014	42	0.820					
Male	Non-low-income	2 or More Races	2014	41	0.780					
Female	Low-income	Asians	2014	34	0.775					
Female	Non-low-income	Asians	2014	33	0.756					
Female	Non-low-income	2 or More Races	2014	30	0.745					
Male	Non-low-income	Asians	2014	23	0.743					
Male	Non-low-income	White non-Hispanics	2014	870	0.708					
Female	Low-income	White non-Hispanics	2014	323	0.706					
Female	Non-low-income	White non-Hispanics	2014	870	0.680					
Male	Low-income	White non-Hispanics	2014	298	0.674					
Female	Non-low-income	Hispanics	2014	83	0.674					
Female	Low-income	Hispanics	2014	252	0.670					
Male	Low-income	Hispanics	2014	238	0.669					
Female	Low-income	2 or More Races	2014	45	0.630					
Male	Low-income	Black non-Hispanics	2014	67	0.602					
Male	Non-low-income	Hispanics	2014	91	0.585					
Female	Low-income	Black non-Hispanics	2014	58	0.437					
Male	Low-income	2 or More Races	2014	39	0.403					
¹ With the exceptions of the correlation of 0.7423 (based on a sample of 23) and the correlation of 0.674 (based on a sample of 83), the correlations ranging from 0.780 down to 0.669 were all significantly higher than the two lowest correlations of 0.437 and 0.403. The correlation of 0.674 was significantly higher than only one other correlation, namely, the lowest correlation of 0.403.										