e-international journal of educational research
Volume: 3 Issue: 3 Summer 2012 pp. 18-32

Advanced Placement Exams Participation and Performance: A National Study of Gender Differences

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Abstract

Performance on Advanced Placement exams for the May 2007 and for the May 2011 administrations was analyzed to determine whether high school boys and girls scored differently. Statistical analysis of scores on AP exams, overall and then for the top 10 AP courses based on exam completion, yielded statistically significant differences between boys and girls. In almost all cases, boys had higher percentages of the top two AP exam scores, 4s and 5s, than did girls. Finally, the most difficult AP exams were identified for boys and for girls. With one exception, Government Politics U.S., the most difficult exams were different by gender. Of particular interest is the striking similarity of results for the 2007 and 2011 AP exams. Implications of these findings are discussed.

Keywords: Advanced Placement, Gender differences, AP exams

INTRODUCTION

Since the 1950s, the College Board has offered Advanced Placement (AP, http://apcentral.collegeboard.com) courses for students wanting more rigorous courses that provide them the opportunity to earn college credit upon completion of an AP exam. In the early years, AP courses were for the more advanced students, but the College Board has stated that the AP curriculum benefits students who work hard to succeed. High school students may earn college credit in 22 different courses by successfully completing AP exams. However, the College Board recently announced that four courses would be dropped (i.e., Italian, Latin Literature, French literature, Computer Science AB) from the list at the end of the 2008-2009 school year (Chec, 2008).

Researchers have suggested that the rigor of AP courses helps students be better prepared for academic rigor at the college or university level (e.g., Hansen, 2005; Kaye, 2006; Klopfenstein, 2004; Leonard, Blasik, Dilgen, & Till, 2003). For example, in Texas, over one half of the students who take two AP courses tend to graduate with a bachelor's degree (College Board, 2006). However, the value of the AP programs has been questioned and/or criticized for a lack of rigor and the possibility that teachers primarily are teaching for testing success (Lichten, 2000; Oxtoby, 2007).

Students completing the AP examination earn a score from 1 to 5, and colleges and universities decide what credits to award based upon the students' scores. A number of colleges and universities now only accept scores of 4 or 5; however, many institutions still accept a 3 for course credit. Students who attain scores of 3, 4, or 5 often have an advantage in admissions (Santoli, 2002). Moreover, students who earn credit via AP examinations may be afforded the opportunity to graduate early, thus helping them to reduce the cost of earning an undergraduate degree. However, Moore and Slate (2011) suggested many colleges and universities are not rewarding course credit but rather placement into higher level courses.

High school boys and girls differ in their selection of Advanced Placement courses and in their performance in these courses (Buck, Kostin, & Morgan, 2002; Moore & Slate, 2008, 2011). Because AP courses have been considered rigorous curricula and connected to future college success (Dougherty, Mellor, & Jian, 2005; Geiser & Santelices, 2004), and because men and women differ in college completion and career selection (King, 2006), it is important to understand patterns in AP course selection and performance outcomes for boys and girls. School administrators and counselors need to know where differences exist so that programs can be improved to meet the needs of students as they prepare for college.

Gender studies are particularly common in the field of education, where researchers have identified differences between boys and girls on a variety of measures in numerous subject areas (e.g., Halpern & Wright, 1996; Nowell & Hedges, 1998; Spelke, 2005). Related to higher education, for the past 15 years, women have attended college at higher rates, earned higher grades, and obtained the majority of associate and bachelor's degrees (Hill, Corbett, & Rose, 2010; King, 2006). Since the 1960s and 1970s, university administrators have focused provision of equal opportunities and nondiscriminatory programs for men and women, particularly in areas related to their future careers (Bailey, 1993; Corbett, Hill, & Rose, 2008). Moreover, high school educators have been asked to remove stereotypic barriers and to encourage girls to enter career paths traditionally held by men (Bailey, 1993; Jones & Dindia, 2004).

College readiness and success have been correlated to students' high school curriculum (Adelman, 2006). In the 1990s, girls were less likely to have taken advanced math or science courses in high school as compared to boys (AAUW, 1998; Benbow & Lubinski, 1993). However, Gallagher and Kaufman (2005) reported that the gap was closing, at least in the years prior to high school and college. Girls enrolled in math courses at similar rates and earned higher grades than did boys. In contrast,

differences in enrollment and achievement remained in the area of science courses (Gallagher & Kaufman, 2005). Although women outnumber men in the attainment of college degrees, women are not selecting science, technology, engineering, or mathematics (STEM) related fields (Herzig, 2004; Hill et al., 2010). Further, less than 15% of freshmen female students planned to major in a STEM field in 2006 (National Science Foundation, 2009).

Even with a national focus to increase the rigor of the high school curriculum (cf. www.achieve.org), educators remain concerned about college readiness (Conley, 2007). In a recent study, Combs et al. (2010) analyzed the college readiness statistics for all high school seniors in Texas for two academic years. They documented statistically significant differences between boys and girls in their college readiness rates for reading (39% boys, 51% girls) and for math, (52% boys, 44% girls). Overall, only one third of the state's high school seniors were deemed college ready in both subject (Combs et al., 2010). Moore, Joyner, Martinez Garcia, and Slate (2011) investigated college-readiness differences between Asian-American and White high school students, two groups rarely compared in the literature. They established the presence of statistically significant differences in favor of the Asian American students over the White students in their sample.

In 2006, the College Board (2007) reported a greater percentage of girls enrolled in AP Biology whereas a greater percentage of boys enrolled in both AP Chemistry and AP Physics. Girls have scored lower than boys on AP examinations in the sciences (AAUW, 1998; College Board, 2007). For those girls who completed advanced science courses in high school, most of them did not continue with science courses in college (Martin et al., 2001). Moreover, a disproportionate number of women selected mathematics-related careers (Nelson & Rogers, 2004) and physics-related careers (National Science Foundation, 2003). In another study, boys were more likely to take three of the core science courses (i.e., biology, chemistry, and physics) than were girls, and a statistically significant difference was yielded in the percentage of boys taking physics compared to girls (National Assessment of Educational Progress, 2001). At least a decade later, the College Board (2008) reported that girls have continued to make progress in math and the sciences; girls accounted for 58% of the test takers in AP Biology, 47% in AP Chemistry, and 48% in AP Calculus. Still, the gap remains for AP Physics as only 22% of the test takers were girls.

For high schools that offer AP courses, the College Board (2010) estimates that on average these schools offer 10 AP courses. In 2007, the most popular course taken by high school students was AP U.S. History (College Board, 2008). AP English Literature and Composition and AP English Language and Composition were the next most popular courses. The remaining seven most popular courses were AP Calculus AB, AP U.S. Government and Politics, AP Biology, AP Psychology, AP Statistics, AP Spanish Language, and AP Chemistry. These results of the most popular AP courses included all students and no national studies were located in which course selection was compared by gender.

Data from the College Board website were used to determine the courses in which most students enrolled for both 2007 and 2011. In 2011, the AP course taken by largest number of high school students was English Language and Composition (412,466), and United States History (406,086) had the second largest AP Course enrollment. In 2007, United States History (333,562) and English Literature and Composition (298,478) were the AP courses with the top enrollments. Girls were enrolled in these courses in greater numbers than boys for both years.

Although researchers (e.g., Breland, Danos, Kahn, Kabota, & Bonner, 1994; Moore & Slate, 2010, 2011; Stricker & Emmercih, 1999) have explored the differences between boys and girls on AP examinations, few studies were located in which differences were examined between boys and girls in regard to the AP examinations most frequently taken. By understanding the patterns in AP course selections and performance, parents and school personnel can provide appropriate guidance to high school students in their AP subject-area selections. In addition, an analysis of course participation by boys and girls may shed light on the on-going concern regarding girls' and women's participation in mathematics and science-related fields. From 2007 to 2011, the number of AP exams taken grew from nearly 2.5 million to about 3.4 million. During that time, schools have most likely implemented changes. Change usually takes 3 to 5 years to be effectively implemented (Wheatley, 2007); therefore, data from the 2007 and 2011 AP exams were used. Thus, three purposes guided the present study. One purpose of the study was to determine the extent to which high school boys and girls performed differently on the most frequently administered AP exams. A second purpose was to identify the most frequently taken AP exams for boys and girls. Finally, the third purpose was to delineate the most difficult AP exams for boys and for girls.

The following research questions were addressed in this investigation: (a) What are the 10 most frequently taken Advanced Placement exams for boys and for girls?; (b) What is the difference between boys and girls in their overall performance on Advanced Placement exams?; (c) What is the difference between boys and girls in their performance on the 10 most frequently taken AP course exams?; and (d) On what AP exams do boys and girls perform the poorest? These research questions were repeated for the 2007 and 2011 AP exam administrations.

METHOD

Data from the May, 2007 and the May, 2011 administrations of the Advanced Placement exams for students across the United States were obtained for this study. Present in the College Board dataset excel files for student performance at each state level and an aggregated file for student performance. The national performance excel data files were downloaded for this study. Within these files was information on student AP exam performance separated by gender and by ethnicity. For purposes of this study, performance on the overall AP exams of all boys and of all girls was selected on the most frequently administered AP exams.

The numbers of students whose exam scores were analyzed in this study differed by the specific AP course. Overall, 1,366,363 girls took an AP exam in May, 2007 compared with 1,110,599 boys. For the May, 2011 exam, 1,840,282 girls took an AP exam, compared with 1,525,335 boys. The specific numbers of students who took the AP exam in each of the top 10 AP course areas can be determined by summing the columns in each of the tables in this study.

Archival data were acquired from a College Board website (http://www.collegeboard.com/student/testing/ap/exgrd_sum/2007.html and http://www.collegeboard.com/student/testing/ap/exgrd_sum/2011.html). The website contains an excel file for student enrollment in AP courses and performance on AP exams for each state for 2007 and for 2011. Each of these excel files contains information on student performance separated by gender, ethnic membership, and grade level. Along with state by state excel files, the College Board also provides a national summary report. We utilized their national summary report excel file for the May, 2007 AP and for the May, 2011 AP exam administrations for this investigation.

FINDINGS AND COMMENTS

To address Research Question 1, an examination of the College Board data for the 2007 administration revealed that the most frequently taken Advanced Placement exams were English Literature & Composition; U.S. History; English Language & Composition; Calculus AB; Government Politics U.S.; Biology; Psychology; Spanish Language; World History; European History; Statistics; and Chemistry, as shown in Table 1. Boys and girls differed slightly in the ranking of their ninth and 10th most frequently taken AP exams. World History and European History were ranked ninth and 10th for boys, whereas Chemistry and Statistics were ranked ninth and 10th for girls.

Table-1: Top Ten AP Exams Taken by Boys and Girls in 2007

AP Course	Girls *n*	Boys *n*
English Literature & Composition	186,396	105,925
U.S. History	180,717	150,464
English Language & Composition	175,145	102,821
Calculus AB	99,538	105,008
Government Politics U.S.	85,202	75,144
Biology	82,298	59,023
Psychology	73,648	39,950
Spanish Language	64,403	35,676
World History	55,790	45,229
European History	51,061	44,274
Statistics	48,339	47,943
Chemistry	43,858	49,449

For the 2011 AP exam administration, the English Literature and Language exams were the top two exams taken by girls, whereas U.S. History and English Language &

Composition were the top two exams taken by boys. Readers are directed to Table 2 for the listing of the most frequently taken AP exams by gender for the 2011 AP exam administration.

Table 2: Top Ten AP Exams Taken by Boys and Girls in 2011

AP Course	Girls *n*	Boys *n*
English Language & Composition	252,219	154,256
English Literature & Composition	226,481	134,000
U.S. History	216,148	186,799
Psychology	122,120	71,042
Calculus AB	119,088	126,484
Government Politics U.S.	117,782	107,069
Biology	104,155	75,389
World History	101,901	84,529
Spanish Language	75,917	45,508
Statistics	70,314	68,677
European History	56,068	49,401
Chemistry	54,724	61,884

For the second research question in which the focus was placed on overall AP exam scores between boys and girls, the result was statistically significant for the 2007 administration, $\chi^2(4) = 17356.63$, $p < .001$. The effect size for this finding, Cramer's *V*, was .08, a small effect (Cohen, 1988). As can be seen in Table 3, 16.19% of boys received exam scores of 5, compared with only 11.59% of girls. For the two lowest exam scores, 43.92% of girls had exam scores of 1 and 2, compared with 37.46% of boys.

Table 3: Frequencies and Percentages of Overall Advanced Placement Exam Scores by Gender for the 2007 Administration

Exam Scores	Girls *n* and %age of Total	Boys *n* and %age of Total
5	11.59% (*n* = 158,402)	16.19% (*n* = 179,800)
4	19.14% (*n* = 261,521)	21.40% (*n* = 237,719)
3	25.35% (*n* = 346,346)	24.94% (*n* = 277,018)
2	23.88% (*n* = 326,311)	20.65% (*n* = 229,325)
1	20.04% (*n* = 273,783)	16.81% (*n* = 186,737)

A similar result was yielded for the 2011 administration, $\chi^2(4) = 21830.11$, $p < .001$. The effect size for this finding, Cramer's *V*, was .08, a small effect (Cohen, 1988). Depicted in Table 4 is that approximately the same percent of boys as for the previous exam, 16.81%, received exam scores of 5, compared with only 12.44% of girls. For the two lowest exam scores, 45.39% of girls had exam scores of 1 and 2, compared with 38.95% of boys.

Table 4: Frequencies and Percentages of Overall Advanced Placement Exam Scores by Gender for the 2011 Administration

Exam Scores	Girls *n* and %age of Total	Boys *n* and %age of Total
5	12.44% (*n* = 228,845)	16.81% (*n* = 256,464)
4	18.43% (*n* = 339,159)	20.78% (*n* = 316,908)
3	23.74% (*n* = 436834)	23.46% (*n* = 357,844)
2	22.32% (*n* = 410,817)	19.62% (*n* = 299,289)
1	23.07% (*n* = 424,627)	19.33% (*n* = 294,830)

Next, the most frequently taken AP exams were examined to determine the extent to which boys and girls differed in their performance. This statistical procedure was viewed as the optimal statistical procedure to use because frequency data were present for exam scores by ethnic membership and by gender. As such, chi-squares are the statistical procedure of choice when one variable is categorical such as ethnicity and gender and the other variable involves a frequency count. For each course, a separate Pearson chi-square procedure was performed. Accordingly, the Bonferroni method of adjustment was used so that the experiment-wise error remained at .05. With 12 chi-squares calculated, .05 was divided by 12, resulting in an adjusted level of statistical significance of .004 that had to be met for a result to be regarded as being statistically significant.

Table 5: Summary of Statistical Analyses for the Top AP Course Performance in Which Boys and Girls Were Enrolled for the 2007 Administration

AP Course	$\chi^2(4)$	Effect size (Cramer's *V*)	Who Did Better?
Overall Exam Performance	17356.63	.08	Boys
English Literature & Composition	366.21	.03	Girls
U.S. History	3058.38	.10	Boys
English Language & Composition	330.55	.03	Boys
Calculus AB	2337.33	.11	Boys
Government Politics U.S.	2498.35	.12	Boys
Biology	2170.45	.12	Boys
Psychology	127.75	.03	Boys
Spanish Language	186.25	.04	Girls
World History	2138.91	.15	Boys
European History	762.92	.09	Boys
Statistics	1694.06	.13	Boys
Chemistry	2088.84	.15	Boys

Note. All results were statistically significant at the Bonferroni adjusted level of .004

Table 5 contains a summary of the chi-square analyses for the 2007 AP exam administration. Of interest is that girls outperformed boys on only two AP exams:

English Literature & Composition and Spanish Language. Also of note is that the difference in boys' performance was greatest on the World History, Chemistry, Statistics, Biology, and Government Politics U.S. AP exams, as determined by the effect size.

The same analysis was conducted for the 2011 AP exam administration. Results for this year are delineated in Table 6. Again, girls outperformed boys on only two AP exams: English Literature & Composition and Spanish Language. Similar to the 2007 results, boys outperformed girls the most on the Chemistry, World History, Biology, Government Politics U.S., and Statistics AP exams, as determined by the effect size. Results were strikingly similar for boys and girls performance on these AP exams in 2007 and in 2011.

Table 6: Summary of Statistical Analyses for the Top AP Course Performance in Which Boys and Girls Were Enrolled for the 2011 Administration

AP Course	$\chi^2(4)$	Effect size (Cramer's *V*)	Who Did Better?
Overall Exam Performance	21830.11	.08	Boys
English Literature & Composition	282.66	.03	Girls
U.S. History	4373.45	.10	Boys
English Language & Composition	705.42	.04	Boys
Calculus AB	2043.17	.09	Boys
Government Politics U.S.	3135.86	.12	Boys
Biology	2670.87	.12	Boys
Psychology	208.55	.03	Boys
Spanish Language	247.98	.04	Girls
World History	3601.67	.14	Boys
European History	795.80	.09	Boys
Statistics	1578.49	.11	Boys
Chemistry	2931.02	.16	Boys

Note. All results were statistically significant at the Bonferroni adjusted level of .004

After comparing the performance of boys and girls, an analysis was conducted of the AP exams that were the most difficult for students (Research Question 4). That is, the AP exams with the highest percentages of exam scores of 1 and 2 were identified, separately for boys and for girls. These courses are depicted in Table 7 for the 2007 AP exam administration and in Table 8 for the 2011 AP exam administration. For 2007, four AP exams were identified in which more than one half of the girls who completed an AP exam obtained scores of 1 or 2. These courses were Government Politics U.S., World History, Chemistry, and U.S. History. Of these four courses, Government Politics U.S. was the only one on which boys also demonstrated a high degree of failure, 42.31%. For boys, they had three AP exams on which more than 50% had exam scores of 1 or 2: Environmental Science, Human Geography, and Economics Macro.

Table 7: Most Difficult AP Courses in 2007 for Girls and for Boys Based on Percentage of Scores of 1 and 2

AP Course	% age of 1s and 2s
Most Difficult for Girls	
Government Politics U.S.	53.32%
World History	51.79%
Chemistry	51.12%
U.S. History	50.61%
Economics Macro	49.35%
Environmental Science	49.35%
Most Difficult for Boys	
Environmental Science	54.88%
Human Geography	54.51%
Economics Macro	54.17%
Physics B	49.84%
Government Politics U.S.	42.31%

Regarding 2011, similar results were revealed. Of particular interest here is that of the most difficult AP exams for girls, more than one half of the girls received AP exam scores of 1 or 2, whereas for the most difficult AP exams for boys, less than one half of the boys received AP exam scores of 1 or 2. Thus, even for difficult AP exams, they appear to be more difficult for girls than for boys.

Table 8: Most Difficult AP Courses in 2011 for Girls and for Boys Based on Percentage of Scores of 1 and 2

AP Course	%age of 1s and 2s
Most Difficult for Girls	
World History	57.55%
Environmental Science	56.54%
Economics Macro	55.11%
Government Politics U.S.	53.33%
Chemistry	53.08%
U.S. History	51.37%
Most Difficult for Boys	
World History	44.97%
Human Geography	44.09%
Environmental Science	43.68%
Government Politics U.S.	43.01%
U.S. History	42.47%

CONCLUSIONS AND RECOMMENDATIONS

In the present study, some differences existed for AP participation and performance as a function of gender. For AP exam participation, in 2007 boys and girls did not differ in their top four AP courses taken (i.e., English Literature & Composition, English Language & Composition, U.S. History, and Calculus AB). However, in 2011, examination participation in the top three courses did not differ (i.e., English Literature & Composition, English Language & Composition, U.S. History), but the fourth most

taken exam for boys was Calculus AB and for girls was Psychology. Differences were noted in that boys were less likely to take Psychology and Spanish, whereas girls were less likely to take Statistics and Chemistry. Regarding AP examination performance of the 12 most popular courses in 2007 and 2011, boys scored significantly higher overall on 10 of the 12 AP examinations. Girls scored significantly higher than did boys in only two of the 12 most popular AP subject examinations: English Literature & Composition and Spanish Language.

To understand why gender differences might exist in AP course selections and performance, we reviewed the work of Wigfield and Eccles (2000). These researchers developed an expectancy-value theory, which is a type of motivation theory, to explain cognitive achievement differences in boys and girls. This expectancy theory relates to one's expectations about success or failure. As such, motivation to achieve is related directly to an expected outcome. If a person does not expect to achieve, for example, in mathematics, then effort will not be given to actions necessary to achieve in mathematics. Conversely, if a person expects success, then the individual will be motivated to put forth effort to achieve success. By the time students attend high school, students have experienced successes and failures with various subject areas (e.g., mathematics, science, writing, English, foreign language, history) (Leahey & Guo, 2001; Olszewski-Kubilius & Turner, 2002). Thus, the expectancy-value theory would suggest that high school students might have selected AP courses in part due to past successes with the subject content. In this study, more girls selected AP Psychology and Spanish than did boys perhaps because girls were more motivated to take these courses based on previous successes and interests. Conversely, boys' selections of AP Statistics and Chemistry outnumbered girls; boys' successes with mathematics and sciences might have been one reason for their continued interest in these advanced courses.

A review of the most frequently selected AP courses by gender is important in that findings can be compared with previous trends. One such trend has been that of the shortage of women mathematicians and scientists (National Science Foundation, 2003). In the past, fewer girls have enrolled in upper-level math and science courses in both high school and college (AAUW, 1998, 2004), resulting in low numbers of women mathematicians and scientists, and specifically physicists (Nelson & Rogers, 2004). Encouragingly, in this study, a similar number of girls and boys participated in AP Calculus, and this course ranked in the top four most popular courses for boys and girls. On the other hand, fewer girls selected AP Chemistry, which ranked 12th in most popular courses taken for girls, whereas for boys, Chemistry ranked 7th.

Researchers might examine the extent to which gender differences are present within each ethnic group. For example, Moore and Slate (2011) investigated gender differences in AP exam between Asian boys and girls. Therefore, additional studies would add to the overall knowledge regarding gender differences in AP programs. Researchers might also analyze differences among course enrollments and exam participation. Typically, more students take the AP courses than sit for the AP exams.

Because girls in this study participated at lower rates and scored lower on AP Calculus and AP Chemistry examinations, more efforts are needed to help girls develop interest, motivation, and success in these areas. When planning programs, parents and educators should consider interventions beginning in the early grades. Some researchers have documented that differences between boys' and girls' interests and attitudes toward science and math appear as early as elementary school (Catsambis, 1995; Jones, Howe, & Rua, 2000) or during the middle school grades (Benbow, 1988; Leahey & Guo, 2001). Moreover, prior researchers (AAUW, 2004; Corbett et al., 2008; Swiatek & Lupkowski-Shoplik (2000) have documented that elementary boys favored math, science, and technology; and girls favored English, writing, foreign language, and reading; and these attitudes increased in intensity with age. Therefore, as district administrators plan programs and interventions to address gender-subject preferences, efforts should be directed toward elementary-aged students.

In addition, school district and campus leaders should work with teachers to make sure girls are instructed with the same expectations as boys. Reis and Callahan (1996) reported that girls believed they were treated differently in high school science classes due to perceived gender roles. As such, girls performed well when supported by good teachers with whom they had a connection (Dentith, 2008; Vanderbrook, 2006). Further, teachers should consider the learning needs of the girls (Moore & Slate, 2011). School counselors also play an important role in AP course selection for both boys and girls. In a previous study, girls reported having little contact with their counselors regarding their AP or IB courses or their goals and career options, and some girls reported being discouraged from taking the rigorous courses (Vanderbrook, 2006). School counselors can help all students determine interests and course selections, and specifically they can help girls consider science and math as attainable career options. Even districts that offer open access to AP course enrollment should evaluate the role that formal and informal advisement procedures play in students' course selections to ensure that both boys and girls have access to rigorous curriculum, particularly in the years prior to AP course offerings.

Because a rigorous high school curriculum and AP courses have been connected to college-readiness, district administrators should evaluate course offerings and analyze course participation rates by gender. Moreover, these administrators should also evaluate the curriculum alignment and content to provide more rigor in earlier grades (Moore & Slate, 2008). For schools and district administrators considering the addition of new AP courses, these results could help administrators select courses of greatest popularity. With this information, teachers, counselors, and administrators might be able to choose AP courses in which students will most likely enroll. In an era when funding seems to be of paramount importance, knowing how to best allocate the limited instructional resources can be vital.

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e-international journal of educational research
Volume: 3 Issue: 3 Summer 2012 pp. 18-32

İleri Yerleştirme Sınavlarına Katılım ve Performans: Ulusal bir Cinsiyet Farklılıkları Çalışması

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Genişletilmiş Özet

Problem: Araştırmacıların ileri yerleştirme sınavlarında kızların ve erkeklerin arasındaki farklılığı araştırmalarına rağmen, yakın zamanda ileri yerleştirme sınavlarında oluşan bu farklılıkları ortaya koyan çalışmalar çok azdır. AP kursu seçimlerini ve performansını gösteren örnekleri anlamaları takdirde, veliler ve okul personelleri lise öğrencilerine ileri yerleştirme konu-alan seçimlerinde yol gösterici olabilirler. Eklemek gerekirse, kızların ve erkeklerin kursa katılım oranlarının analiz edilmesi, matematik ve fenle alakalı alanlarda kızların ve kadınların katılımı hakkında sürüp gelen endişelere de ışık tutabilir. Bu çalışmaya üç amaç öncülük etmiştir. İlk amaç, ileri yerleştirme sınavlarının hangi alanında kızların ve erkeklerin farklılık gösterdiğidir. İkinci amaç, kızlar ve erkekler tarafından en sık alınan ileri yerleştirme sınavlarını tanıtmaktır. Son olarak, üçüncü amacı da, kızlar ve erkekler için en zor olan ileri yerleştirme sınavlarını ortaya koymaktır.

Metot: Bu çalışma için, Birleşmiş Milletlerde uygulanan ileri yerleştirme sınavlarının 2007 ve 2011 mayıs ayları verileri alınmıştır. Her bir seviyedeki öğrenci performansları ve bütünleşik öğrenci performanslarını ortaya koyan The College Board'a ait veri seti (excel dosyaları) alınmıştır. Ulusal performans excel veri dosyaları bu çalışma için yüklenmiştir. İleri yerleştirme sınavlarına yönelik dosyalardan toplanan bilgiler, cinsiyet ve etnik köken itibariyle ayrılmıştır. Bu çalışmanın amacı gereği, ileri yerleştirme sınavlarından kızların ve erkeklerin en çok sıklıkta giridikleri ileri yerleştirme sınavları seçilmiştir.

Bulgular ve Yorum: Bu çalışmada, cinsiyetin ileri yerleştirme performansı ve katılımına etki ettiği görülmüştür. 2007 yılında kızlar ve erkekler en çok alınan dört ileri yerleştirme sınavları bakımından (İngiliz Edebiyatı ve Kompozisyon, İngiliz Dili ve Kompozisyon, Birleşmiş Milletler Tarihi ve Matematik) farklılık göstermemişlerdir. Buna rağmen, 2011 yılında en çok alınan üç ileri yerleştirme sınavı değişmemiş (İngiliz Edebiyatı ve Kompozisyon, İngiliz Dili ve Kompozisyon, Birleşmiş Milletler Tarihi), fakat dördüncü en çok alınan sınav erkekler için Matematik olmuşken, kızlar için

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Cilt: 3 Sayı: 3 Yaz 2012 ss. 18-32

Psikoloji olmuştur. Farklılıklar, erkeklerin Psikoloji ve İspanyolca almaya daha az eğilimli olduğu, kızların Kimya ve İstatistik almaya daha az eğilimli olduğu yönünde ortaya çıkmıştır. 2007 ve 2011 yılında en çok alınan 12 ileri yerleştirme sınavlarına bakılacak olursa, erkeklerin 12 ileri yerleştirme sınavının 10 tanesinden yüksek puan elde ettiklerini, kızların ise erkeklerden sadece İngiliz Edebiyatı ve Kompozisyon ve İspanyolca dili sınavlarından daha yüksek puan aldıkları görülmüştür.

Sonuç ve Öneriler: Üniversiteye hazırlamalarından ötürü uygulanan sıkı lise ders programı ve ileri yerleştirme sınavlarının varlığı, bölge yöneticilerini cinsiyet farkını da hesaba katacak şekilde farklı sınav seçenekleri ve katılımları sağlamaya itmelidir. Ayrıca, bu yöneticiler daha erken dönemlerde, titiz bir şekilde program sıra ve içeriklerini de değerlendirmelidirler. Yeni ileri yerleştirme sınavlarını kabul eden okullar ve bölge yöneticileri bakımından, bu sonuçlar yöneticilerin en popüler ileri yerleştirme sınavlarını seçmelerine yardımcı olacaktır. Bu bilgiyle, öğretmenler, danışmanlar ve yöneticiler, öğrencilerin katılmayı en çok sevecekleri ileri yerleştirme sınavlarını seçmiş olacaklardır. Bulguların çok önemli olduğu bir çağda, sınırlı bilgi kaynağından nasıl en iyisini bilebileceğimizi bilmek, hayati bir önem taşır.

Anahtar Kelimeler: İleri Düzey Yerleştirme Programı, Cinsiyet farklılıkları, Yerleştirme sınavları