

# An Analysis of Rural and Urban Pennsylvania Adults Taking, Completing and Passing the GED



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# An Analysis of Rural and Urban Pennsylvania Adults Taking, Completing and Passing the GED

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## Executive Summary

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Dropping out of high school seriously impacts an individual’s job opportunities, income potential and employment stability. To minimize those risks, individuals can earn a General Educational Development (GED) credential.

Researchers have studied the impact of obtaining a GED on candidates’ lives and found that the credential affects their perceptions of themselves and their future success in terms of education, training, employment and income.

This study identified similarities and differences among rural and urban GED students to determine if certain factors affect the success of these students in obtaining a GED. The study also looked to identify program considerations that may serve the educational needs of out-of-school rural and urban GED candidates.

The research found that, on average, GED candidates were 24 years old, did not complete schooling beyond the 10<sup>th</sup> grade, and earned about \$5,800 the year prior to taking the GED. The largest percentage of rural and urban candidates indicated they were unemployed, and about one-third indicated they were employed full-time.

Overall, the most common reasons for taking the GED were personal satisfaction, to get a better job, to enter college, to enroll in a technical or trade program, and to be a role model for family. Typically, the GED candidates found out about the GED through a friend, neighbor or family member. The most common methods/approaches for preparing for the GED were home study, public school adult education class, official practice tests, and being self-taught.

The most frequently indicated reasons for not completing high school were “did not like school” and “absent too many times.”

Rural GED candidates traveled farther than urban candidates to take the GED tests, but both groups drove 25 miles or less, on average. Candidates did not wait long to take the GED – on average, one week or less.

The research results also indicated that the rural candidates’ educational functioning level (EFL) upon entering the adult education program was significantly higher than that of urban candidates. However, the urban candidates’ level of participation was significantly more intense and persistent than that of rural candidates.

Based on these and other results, the researchers determined that common characteristics among rural and urban GED candidates have implications for adult basic education programs in terms of planning and providing GED preparation classes. Specific program approaches, based on the differences between the two cohorts, also can be useful in tailoring classes to meet the needs and interests of each group.

## Introduction

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For the past decade, school reform, early childhood education, and struggling adolescents have been the focus of education. These are undoubtedly important issues. However, they do not include the educational needs of adults who have already dropped out of school prior to receiving a high school diploma and the impact that dropping out has on families, communities, and the economy.

Adults with limited educational attainment face a lifetime of economic insecurity. Results from the 2006-2008 American Community Survey<sup>1</sup> indicate that median earnings for Pennsylvania adults (25 years and older) who did not have a high school diploma or its equivalent were considerably less than those of adults with a diploma or its equivalent. Specifically, the median earnings (in 2008 inflation-adjusted dollars) for those without a diploma were \$20,766, and \$27,751 for those with a diploma. Having postsecondary schooling was associated with even higher earnings: the median earnings for those with some college or an associate's degree were \$33,829; \$46,582 for those with a bachelor's degree; and \$62,925 for those with a graduate or professional degree. In addition, adults whose income was below the poverty level were more likely to not have a high school diploma or its equivalent. Specifically, about 30 percent of adults 25 years of age or older whose income was below the poverty level did not have a high school diploma or its equivalent. On the other hand, about 11 percent of adults whose income was at or above the poverty level had less than a high school diploma or its equivalent.

Fogg, Harrington, and Khatiwada, (2007) found that Pennsylvania's high school dropouts face unemployment and under-employment throughout their working lives as well as lower wages when compared to their better-educated counterparts. The inability to access full-time employment also results in fewer opportunities to receive health or pension benefits. Unfortunately, these economic outcomes for high school dropouts have gotten worse over time due, in part, to changes in Pennsylvania's economy. Herzenberg and Price (2008) note that the rural economy has gradually changed from a manufacturing to a service industry base since the 1970s; at that time, one of three rural jobs was in manufacturing compared to one in six in 2008. Changes in technology and manufacturing procedures have resulted in employers seeking workers with more advanced education or training to fill available positions. Further, while high-wage paying service industries account for only 12 percent of the available jobs in rural areas, those industries, including information technology and finance, also require workers with more advanced skill levels. These changes in business and industry, occur-

ring over time, have made it necessary for employers to hire workers with higher levels of educational attainment, including in most cases, some postsecondary education or training. Dohm and Shniper (2007) reported that nearly twice as many jobs in the near future will require a postsecondary credential or degree. Further, workforce development goals for various Pennsylvania agencies and organizations include preparing Pennsylvanians for careers in higher-wage jobs. Research conducted by the Center for Rural Pennsylvania (Findeis, Shields and Shrestha, 2009; and Yerger and Julian, 2009) concluded that getting students to complete high school improves a county's employment rates. Inadequate educational attainment is likely to limit Pennsylvania's economic growth in the future. Therefore, efforts to keep youth enrolled in high school and to encourage more out of school youth and adults to re-engage in education to obtain, at minimum, a high school credential will become ever more important.

Ideally, high school students should remain in school until they graduate. Unfortunately for a significant number of Pennsylvania youth and adults, the reality is that they have already left school without a diploma. Without a high school diploma, access to postsecondary training and education is often denied. Access to higher wage jobs may also be out of reach. Currently the most often used avenue to re-engaging in education and receiving a high school credential is to pass the series of five academic tests that comprise the General Educational Development (GED) Test series. Accepted by both academic and corporate organizations as equivalent to a high school diploma, the GED is produced and administered by a division of the American Council on Education (ACE). It includes exams in English grammar, social studies, natural science, literature, and mathematics.

In Pennsylvania, the Department of Education's Bureau of Adult Basic and Literacy Education (ABLE) administers GED educational services, providing the GED through a network of approved GED Testing Sites. Test takers must go to one of these official sites to take the tests, and they must pass all five tests. According to ABLE, adults eligible for the GED are residents of the state who are no longer enrolled in a public, licensed private, registered accredited, or licensed nonpublic secondary school, and have not graduated from high school or received a high school diploma or equivalency certificate. ABLE administers the GED program, including preparation classes and testing, although other non-ABLE funded entities, such as public libraries, often offer workbooks, videotapes, or access to on-line GED test preparation software.

Research literature focusing on differences between rural and urban adults in the factors that promote taking or passing the GED is sparse. One factor that is likely to promote passing the GED is participation in GED preparation classes. King (2002) reported a significant difference

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<sup>1</sup> The American Community Survey is sponsored by the U.S. Census Bureau, and is an on-going nationwide survey that is sent to a sample of the population.

between rural and urban adults in barriers to participation in a GED program, particularly with respect to family constraints. In addition, a survey of ABLE-funded adult education providers in Pennsylvania indicated that rural adult education providers have greater difficulties recruiting and retaining adult education students, in general, than urban providers (Yan, 2006).

### **Increasing Educational Attainment Through the GED**

The 2008 GED Testing Program Statistical Report found that 60 percent of GED candidates nationally take the test for educational reasons (GED Testing Service, 2009). This report also found that approximately 39 percent of all GED candidates were between 16 and 18 years old. Interestingly, Coley (2008) reported the same percentage for a broader age range, stating that in 2004-2005, 16 to 24 year-olds accounted for 39 percent of all participants in state-administered adult education programs nationally (adult basic education, GED, and English as a Second Language/ESL).

The majority of these young adults and the remaining GED candidates take the GED for various reasons, most often citing interest in seeking a postsecondary training credential or degree. Researchers have conducted Pennsylvania and national studies on the impact of obtaining a GED on candidates' lives and found that it affects their perceptions of themselves as well as their future success in further education or training, and in employment and income (Heckman and Rubenstein, 2001; Murnane, Willett, and Tyler 1999; Smith, 2003; and Tyler, 2005).

### **Goals and Objectives**

The overall goal of this project was to determine similarities and differences between rural and urban adults in Pennsylvania who had taken the GED between 2003 and 2008. The researchers expected that profiles of these adults would provide useful information in setting policy and in designing programs effective in serving the educational needs of out-of-school rural and urban youth and adults without a high school credential.

To that end, the researchers analyzed existing databases to develop profiles of Pennsylvania adults who took the GED during the specified time period to determine characteristics that may have influenced GED outcomes. This information could then assist educators in developing programs to address this diverse population of adults.

Further, the researchers examined the impact that participation in education services offered by ABLE had on adults preparing to take the GED. Finally, the research-

ers studied factors associated with obtaining higher GED scores to determine if these factors might help other candidates improve their overall test scores.

The GED Testing Service distinguishes between GED candidates, GED completers, and GED passers. GED candidates are adults who have taken at least one of the five tests, regardless of whether they passed. Therefore, all individuals in the databases are GED candidates. However, these candidates can be further divided into GED completers who had taken but not passed all five tests and GED passers who earned the GED credential by passing all five tests and having acceptable minimum total scores. These terms are used throughout the report to distinguish among groups of individuals who pursued a GED credential during the study time period (2003-2008).

### **Methodology**

The study used two data sources: the GED scoring service database and the Bureau of ABLE's database on participants in ABLE-funded educational programs, referred to as e-Data.<sup>2</sup>

To conduct the analyses, the researchers created two longitudinal databases, both containing data for the period of January 1, 2003 to December 31, 2008.<sup>3</sup> These databases were restricted to only those GED test takers with a Pennsylvania ZIP code or county. Throughout the remainder of the report, these two databases are referred to as the "longitudinal GED scoring service database" and the "e-Data/GED longitudinal database," respectively.

For the longitudinal GED scoring service database, the researchers constructed panel data for each GED candidate within the 2003-2008 time period.

For the e-Data/GED longitudinal database, the researchers included data from e-Data for the 2003-2008 time period and the longitudinal GED scoring service database for GED candidates that were found in both databases.

The longitudinal GED scoring service database contains data from the U.S. Demographics Survey conducted by the General Educational Development Testing Program as well as individual GED test scores. All test takers are administered the U.S. Demographics Survey, although they are not required to complete all survey questions. The demographic survey asks GED candidates for their address, county, age at the time of the survey, gender, race/ethnicity, primary language, highest grade completed, highest grade completed in primary language, years last attended school, reasons for taking the GED test, labor market status, and income. It also asked candidate if they are in a correctional facility, a health facility, or the

<sup>2</sup> The Institute for the Study of Adult Literacy (ISAL) is the grantee responsible for providing ABLE with data support through the ABLE Tech project. Part of ISAL's duties under that project include the regular analysis of data entered into the e-Data system as well as data in the GED scoring service database.

<sup>3</sup> Data collection procedures for the GED changed in 2002 and 2003 was a transition year for the new GED data collection procedure. Consequently, the first year that was included in the longitudinal database is 2003.

military, if they are receiving public assistance, if they are a single parent, the distance from their residence to the testing center, if they took the official GED practice tests or paid for the test preparation themselves, and how they first learned about the GED.

The longitudinal GED scoring service database was used to place candidates into one of three categories: adults who took at least one of the GED subtests but did not complete it (GED candidate); adults who did not pass the GED but completed all five subtests (GED completer); and adults who passed the GED (GED passer). The database also identified the number of times each candidate took the GED, and the amount of time between the first and last administration of the GED for each candidate during the 2003-2008 time period.

The researchers coded addresses to determine whether the candidate lived in a rural or urban community. They used the Center for Rural Pennsylvania's population-density-based definition of rural and urban.<sup>4</sup> As such, the primary measure of rurality was whether the municipality in which the candidate lived was rural or urban. The county was also coded as rural or urban, thereby incorporating a measure of rurality for the candidates' larger environment.

The e-Data/GED longitudinal database contained all of the variables in the longitudinal GED scoring service database as well as program variables from the e-Data database. ABLE regularly collects data on adult students' length of time in the ABLE-funded program, education level on entry and exit, and the number of hours of instruction in GED preparation and other classes. This combined longitudinal database provides a richer source of information than the longitudinal GED scoring service database; however, it is more limited in that it contains only adults in both the longitudinal GED scoring service database and e-Data, thereby eliminating candidates who did not participate in an ABLE-funded adult education program.

The longitudinal GED scoring service database was used to develop a demographic, socio-economic, and academic profile of Pennsylvania's rural and urban candidates.

It was also used to address the relative strength of demographic, socio-economic, and academic factors measured by the U.S. Demographics Survey influencing outcomes on the GED for rural and urban candidates.

The e-Data/GED longitudinal database incorporated program variables into the analysis, and the researchers used it to assess the relative influence of program variables, as well demographic, socio-economic, and aca-

demographic factors on success with the GED for rural and urban candidates.

One of the primary advantages of using a longitudinal design for this study was that it provided a more accurate assessment of whether an individual passed the GED and how much time it took for the individual to complete and pass the test, since some adults take the test over multiple years.

All analyses were restricted to candidates who resided in Pennsylvania (based on their ZIP code and county), and who provided permission to use the information collected on the U.S. Demographics Survey for research purposes.<sup>5</sup>

Moreover, analyses were restricted to candidates who indicated that they took the English version of the GED and whose primary language was English. The researchers based this decision on several factors, including that the vast majority of the candidates took the English language version of the GED and nearly all of the candidates indicated that their primary language was English. Out of 89,431 test takers residing in Pennsylvania and who gave permission to use their data for research purposes, 93 percent took the English language version of the GED and indicated that their primary language was English.

In terms of a rural/urban breakdown, 95 percent of candidates residing in rural municipalities and 92 percent of those in urban municipalities took the English language version of the GED and also indicated that their primary language was English. Supplemental analyses indicated that candidates who took non-English versions of the GED were significantly less likely to pass the GED or to complete it.<sup>6</sup> However, due to the small number of people who took a non-English version, particularly in rural areas, it is unlikely that analyses incorporating language (of the GED or primary language) would be reliable.<sup>7</sup>

In addition, the analyses excluded adults associated with correctional facilities. This was done to avoid skewing results, in particular for those living in rural areas. These procedures resulted in the longitudinal GED scoring service database containing data for 68,317 Pennsylvanians. The e-Data/GED longitudinal database contained data on 28,862 of those included in the longitudinal GED scoring service database (42 percent). Consequently, 39,455 people in the longitudinal GED scoring service database (58 percent) were not represented in the e-Data/GED longitudinal database.

Due to the extremely large number of cases included in the research, the researcher used a p-value of 0.001 to define a statistically significant effect.

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<sup>4</sup> A municipality is rural when the population density within the municipality is less than 274 people per square mile or the municipality's total population is less than 2,500 unless more than 50 percent of the population lives in an urbanized area as defined by the U.S. Census Bureau. All other municipalities are urban.

<sup>5</sup> Out of a total of 112,175 GED test takers, 7,040 test takers did not have an address that was associated with a Pennsylvania ZIP code or county, and 16,847 did not provide permission to use their data for research purposes.

<sup>6</sup> 71 percent of those taking the English version of the GED passed the GED, compared to 45 percent of those taking the French version and 38 percent of those taking the Spanish version.

<sup>7</sup> Only 216 candidates in rural municipalities took the Spanish version of the GED; none of the rural residents took the French version.

## Data Limitations

Secondary data were used in the analyses, and as such, the research team was not able to control the procedures used to administer the data collection instruments or for data entry. Moreover, a large number of personnel enter data into the e-Data system. As such, the quality of data entry may vary across personnel and time. Also, data for the e-Data system are collected for administrative purposes and not research. Consequently, administrative factors may influence the extent to which a complete array of data is entered into the database. The U.S. Demographics survey is self-administered. There is a substantial percentage of missing data for some survey questions, in particular the questions dealing with status at the time of testing, why the test taker did not complete high school, and questions asking about specific subject areas taken from the 9<sup>th</sup> grade until schooling was completed, years of study and grades received in different subject areas.\*

The data limitations described above could potentially influence the reliability of responses. This potential impact is counteracted by requiring a stringent p-value to determine statistical significance (0.001). In addition, consistency of results across the various analyses would indicate that the findings were reliable.

\* The high level of missing data associated with these questions are due, in part, to the structure of the response options and the coding procedures used to determine if data were missing; test takers were to darken the circle associated with the response options if those options applied. There was no opportunity for test takers to indicate that none of the options applied. Consequently, responses for these questions were coded as missing if none of the response options were selected. This reason is most likely the primary factor affecting the low response rate for the questions on status at the time of testing because the different statuses reflect special circumstances for an individual, and a substantial percentage of test takers would be expected to not check any of the response options presented (i.e., single parent, receiving public assistance, emancipated minor). The list of response options for the question asking test takers why they did not complete high school was fairly extensive (43 different choices), and most likely additional factors were operating to influence the response rate for this question. The instructions associated with the questions dealing with years of study in different subject areas and grades were lengthy and involved, which would have influenced the response rates as well as the validity of responses for those who answered these questions. The question asking about academic subjects taken would potentially be a demanding task for test takers (i.e., under English/Literature, test takers were to indicate whether they took literature, English literature, world literature, or grammar/composition).

## Results

In the analysis of GED data from 68,317 Pennsylvania candidates, the research found that 72 percent of the sample completed and passed the GED. Twenty-eight percent did not pass the GED, including 13 percent who did not complete all five tests and 15 percent who completed all five tests but did not pass the GED. (See Figure 1)

Figure 1: Pennsylvania Candidates Completing and Passing the GED, January 1, 2003 – December 31, 2008

GED Outcomes	Number	Percent
Did Not Complete the GED (took between 1 and 4 subtests)	8,670	13
Did Not Pass the GED (took 5 subtests)	10,577	15
Passed the GED	49,070	72
Total	68,317	100

### GED Status and Geographic Location

The frequency of rural and urban candidates achieving one of the three GED outcomes - GED passer, GED completer, and GED candidate - is shown in Figure 2.

Residents of rural municipalities were more likely to be GED completers and GED passers than residents of urban municipalities. Seventy-nine percent of candidates in rural municipalities passed the GED compared to 69 percent of candidates in urban municipalities. In contrast, 9 percent and 14 percent of candidates in rural and urban municipalities, respectively, did not complete the GED.

Test taking profiles of rural and urban municipal residents identified differences

in terms of the frequency and timing of taking the GED tests, and scores received on the tests. Rural residents had significantly fewer days between the first and last time they took the GED test, and they also sat for the GED fewer times, on average. At the same time, rural residents took more tests at a single sitting than urban residents, and took more tests overall. These two results provide an indication of why rural tests takers were more likely to complete the GED than urban candidates, that being they

Figure 2: GED Status by Rural/Urban Residence, January 1, 2003 – December 31, 2008

Municipality	Did Not Complete GED (took between 1 and 4 subtests)		Did Not Pass GED (took all 5 subtests)		Passed GED		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Rural municipality	1,581	9	2,275	12	14,422	79	18,278	100
Urban municipality	7,089	14	8,302	17	34,648	69	50,039	100

were more likely to complete the battery of five tests on a single sitting.<sup>8</sup>

Rural candidates scored significantly higher than urban candidates on the GED math, science and social studies subtests. On the other hand, the difference in scores between rural and urban residents on the GED reading and writing subtests did not differ significantly. Also, the last year that candidates took the GED during the study period (2003-2008) did not differ significantly across rural and urban candidates. That is, rural candidates were no more likely to take tests earlier during the study period (2003 or 2004) than urban candidates. Similarly, rural candidates were no more likely to take tests later during the study period (2007 or 2008) than urban candidates.

### GED Performance

To pass the GED, a test taker must score at least 410 on each of the five subtests (800 is the highest possible score), and the total score across all five tests must be at least 2,250.

While rural candidates were more likely to pass the GED than urban candidates, they tended to score lower than urban candidates (among those passing the GED). Specifically among those who passed the GED, urban candidates scored significantly higher than rural candidates on reading, writing, social studies, and the total score. Rural candidates who passed the GED scored significantly higher on math than urban candidates, although the difference was small (less than a four-point differential). The difference between urban and rural candidates who passed the GED was also small on social studies (less than a three-point differential). The difference between rural and urban candidates on the science test was not statistically significant at the 0.001 level.

Both rural and urban candidates who passed the GED surpassed the minimum score necessary to pass the GED moderately well for the reading, science and social studies subtests, especially reading. The mean scores for these subtests were in the mid-500 range, and the mid-to-upper 500 range for reading. Scores on the writing and math components were considerably lower, with mean scores close to 500.

For candidates who did not pass the GED, but completed all five subtests, urban candidates scored significantly higher than rural ones on the reading and writing

components, while rural candidates scored significantly higher on the math and science components. The differences between rural and urban candidates on the social studies component and total scores were not significant at the 0.001 level.

Among those candidates who did not yet complete all five subtests of the GED, rural candidates scored significantly higher than urban candidates on math, science and social studies. Differences were not significant at the 0.001 level for the reading and writing subtests.

### Characteristics of Rural and Urban Candidates

Due to the large number of rural and urban candidates included in the analyses, the majority of the differences in the characteristics between rural and urban candidates were statistically significant at the 0.001 level, even when the actual difference was small. Consequently, the only differences that are discussed below are those that are both significantly and substantively significant.

Overall, 52 percent of the candidates were female, with the percentage being slightly lower in rural areas (49 percent). Candidates were only able to indicate one race/ethnicity on the survey and there were considerable differences between rural and urban candidates. Rural candidates were more likely to identify themselves as white than urban candidates (85 percent and 63 percent, respectively), and urban candidates were more likely to identify themselves as all of the other race/ethnicity groups. For example, only 10 percent of rural candidates identified themselves as black, African American, or African descent while 26 percent of urban candidates did so. About 9 percent of urban candidates identified themselves as Hispanic, compared to 4 percent of rural candidates. (For the full demographic results, see Appendix A starting on Page 19.)

Overall, candidates were 24 years old, and completed the 10<sup>th</sup> grade, on average. Candidates earned about \$5,800 the year prior to taking the GED,<sup>9</sup> on average, with income increasing as age increased for non-retirement age test takers.<sup>10</sup> Specifically, 58 percent of candidates had an income of \$5,000 or less in the year prior to taking the GED. Only 1 percent of the candidates indicated being currently in the military. Differences were minimal between rural and urban candidates with respect to the results reported above.

Rural candidates traveled farther than urban candidates

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<sup>8</sup> This conclusion is supported by the following: 87 percent of rural tests takers who sat for the GED only once during the analysis time period completed the GED, while 65 percent of urban candidates who sat for the GED only once completed it. Moreover, rural candidates were more likely to only sit once for the GED than urban candidates (38 percent compared to 19 percent, respectively).

<sup>9</sup> The U.S. Demographics Survey provided the following response options for total amount earned the year prior to taking the survey: 1=\$0; 2=\$1-\$3,000; 3=\$3,001-\$5,000; 4=\$5,001-\$7,500; 5=\$7,501-\$10,000; 6=\$10,001-\$15,000; 7=\$15,001-\$20,000; 8=\$20,001-\$25,000; 9=\$25,001-\$30,000; 10=\$30,001-\$40,000; 11= greater than \$40,000. The means presented here were extrapolated.

<sup>10</sup> Retirement age is defined loosely as a test taker in their 60's or 70's. Results indicated that average income the year prior to taking the survey was lower for test takers in their 60's and 70's than for those in their 50's.

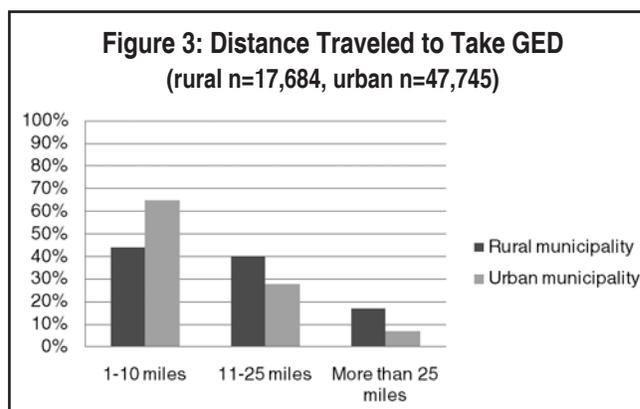
to take the GED tests, but both groups drove 25 miles or less, on average.<sup>11</sup> Specifically, 44 percent of rural candidates traveled 1 to 10 miles to take the GED, while 65 percent of urban candidates traveled that far. On the other hand, 40 percent and 17 percent of rural candidates traveled 11 to 25 miles and greater than 25 miles to take the GED, respectively. The percentage of urban candidates traveling greater than 10 miles was considerably smaller (28 percent traveled 11 to 25 miles, and 7 percent traveled more than 25 miles). (See Figure 3)

After candidates applied to take the GED, they did not wait long – on average, they took in one week or less.<sup>12</sup> In fact, about 73 percent of rural candidates and 66 percent of urban candidates reported not waiting at all to take the GED. However, among those who had to wait to take the GED, urban candidates were more likely to have to wait than rural candidates: 20 percent of urban candidates waited 1 to 4 weeks, compared to 14 percent of rural candidates. Urban candidates were considerably more likely to pay for their test preparation themselves than rural candidates (47 percent compared to 38 percent).

Also, urban candidates indicated spending more hours preparing for the GED than rural candidates – urban candidates spent 102 hours to prepare, on average, compared to 75 hours, on average, reported by rural candidates. It is important to note that this figure is the number of hours spent preparing for the GED prior to the first administration of the test. The survey data does not provide a count of the hours spent preparing for each administration. As noted earlier, 62 percent of rural candidates and 81 percent of urban candidates took the GED more than once. Considerably more rural candidates reported taking the Official GED Practice Tests; 72 percent of rural candidates reported taking the practice test compared to 56 percent of urban candidates.<sup>13</sup>

Candidates were asked to indicate the reasons for taking the GED. The list of options is provided in Appendix A, and candidates could check all that apply. Overall, the most common reasons for taking the GED were as follows:

- Personal satisfaction (52 percent);
- To get a better job (45 percent);
- To enter a 2-year college (24 percent), enroll in technical or trade program (22 percent), or enter a 4-year college/university (19 percent); and
- To be a role model for family (20 percent).



Compared to rural candidates, urban candidates were more likely to indicate entering a 2-year college (26 percent compared to 19 percent), entering a 4-year college/university (20 percent compared to 15 percent), or enrolling in a technical or trade program (23 percent compared to 21 percent). On the other hand, rural candidates were more likely than urban candidates to indicate personal satisfaction as a reason for taking the GED (56 percent compared to 51 percent).

Other less frequently mentioned reasons for taking the GED indicated by candidates included job training (11 percent), employer requirement (9 percent), get first job (6 percent), skills certification (6 percent), military entrance (5 percent) and military career (2 percent), keep current job (3 percent), public assistance requirement (3 percent), court order (3 percent), early release (1 percent), and other (12 percent). On average, candidates indicated 2.4 reasons for taking the GED.

Candidates also indicated their current status in the labor market, with the options listed in Appendix A. Candidates could check all that applied. The largest percentage of rural and urban candidates indicated that they were unemployed (seeking employment), although urban candidates were significantly more likely to be unemployed than rural candidates (39 percent and 34 percent, respectively). On the other hand, 33 percent of urban candidates and 31 percent of rural candidates indicated they were employed full-time. Only 16 percent of urban candidates and 13 percent of rural candidates indicated they were employed part-time (20 or fewer hours/week). Overall, only a small percentage of candidates indicated they were on permanent disability (1 percent), not in the labor force (unemployed by choice – 3 percent), or not in

<sup>11</sup> The U.S. Demographics Survey provided the following response options for number of miles traveled in 1 direction to take the GED tests: 1=1-10; 2=11-25; 3=26-50; 4=51-100; 5= greater than 100.

<sup>12</sup> The U.S. Demographics Survey provided the following response options for length of time waited to take GED tests: 1=no wait; 2=1 week; 3=1 week to 1 month; 4=greater than 1 month. Means in Appendix A were extrapolated.

<sup>13</sup> The U.S. Demographics Survey asks whether the test taker took the official practice tests in two distinct questions. In the first location on the questionnaire, the test taker was simply asked to indicate 'yes' or 'no' as to whether they took the official GED practice tests. The data reported above is associated with this question. In the second location, candidates were asked to check which methods/approaches they used to prepare for the GED tests, and the Official Practice Tests was one of the options. Results are reported for both of these questions in this report.

the labor force (homemaker, family caregiver – 4 percent). Essentially none of the candidates indicated being retired.

Rural candidates were more likely to be full-time students than urban candidates (15 percent and 8 percent, respectively). Only a small percentage of rural and urban candidates indicated being a part-time student (2 percent and 5 percent, respectively).

Candidates were also asked to indicate their status at the time of testing, in terms of being housed in a health facility, receiving public assistance, being a single parent, or being an emancipated minor. Rural candidates were significantly less likely to indicate being a single parent than urban candidates (58 percent and 69 percent, respectively), although rural candidates were more likely than urban candidates to be receiving public assistance or be an emancipated minor (public assistance: 47 percent and 43 percent, respectively; emancipated minor: 12 percent and 10 percent, respectively). Only 3 percent of rural and urban candidates indicated current status as “health facility.” The number of candidates responding to this group of questions was about one-third of the number responding to the bulk of the other questions. As a result, no further analyses were conducted with this group of questions on the U.S. Demographics survey.

Candidates were asked to indicate how they first learned about the GED tests. The list of 16 options is provided in Appendix A, and candidates could check all that apply. Overall, differences between rural and urban candidates were small, although eight of the 16 were statistically significant. Overall, the most commonly indicated source for finding out about the GED was friend, neighbor or family member (56 percent). Considerably fewer indicated the second most commonly indicated source of school guidance counselor or teacher (26 percent). The remaining candidates indicated the following sources: classmate (6 percent), education agency (6 percent), brochure, pamphlet or poster (4 percent), social worker (4 percent), television and newspaper (3 percent, respectively), radio (1 percent), magazine (1 percent), employer (3 percent), employer counselor (2 percent), probation or parole officer (3 percent), jail or prison official (1 percent), and military recruiting officer (3 percent). More than 22 percent indicated “other.” Overall, candidates indicated first learning about the GED from 1.4 sources, on average.

Rural and urban candidates were also asked to indicate how they prepared for the GED tests. (See Appendix A for choices) Candidates could check all that applied. Overall, the most commonly indicated methods/approaches for preparing for the GED were home study, public school adult education class, official practice tests, and being self-taught. About 28 percent of the rural and urban candidates indicated home study. Rural candidates were more likely than urban candidates to indicate public school education class (25 percent and 22 percent, respectively), or official practice tests (26 percent and 20 percent, respectively). Urban candidates were more likely to indicate

being self-taught than rural candidates (24 percent and 21 percent, respectively). About 14 percent of rural candidates indicated Job Corps, but only 4 percent of the urban candidates did so. Overall, about 12 percent of candidates indicated Internet/computer and 9 percent indicated community based organization. About 10 percent of urban candidates indicated community college adult education class, but only 4 percent of rural candidates indicated this option.

Overall, less than 10 percent of rural and urban candidates indicated the following methods/approaches: library (6 percent), employment and/or training program (5 percent), GED option (4 percent), family literacy (2 percent), workplace literacy program (2 percent), private tutor (2 percent), literacy volunteer program (2 percent), television (1 percent), distance learning (1 percent), homeschooling instead of K-12 (1 percent), and correctional facility (1 percent). Overall, 9 percent of candidates indicated no method/approach. On average, rural and urban candidates indicated 1.6 methods/approaches for preparing for the GED.

Candidates also indicated the total number of years (or equivalent) of study for English/literature, science, composition, mathematics, and social studies completed from 9<sup>th</sup> grade until they completed school. Overall, candidates completed between 2 and 3 years of study, on average, for each of the subjects listed. Candidates also indicated receiving Bs and Cs, on average, in all of the subjects listed. Candidates were also asked to indicate the number of different courses they took under these five subject headings – English/literature, language, science, social studies, and mathematics. Overall, candidates took between one and two courses in English/literature and language, and between two and three courses in science, social studies, and mathematics, on average.

Finally, candidates were asked to indicate reasons for not completing high school. (See Appendix A for options) The U.S. Demographics Survey grouped these reasons into the following categories: family, social, academic environment, and student performance. Candidates could check all that applied.

The most common reasons related to family for not completing high school were “got a job” and “got pregnant/made someone pregnant.” Rural candidates were more likely to indicate “got a job” as a reason for not completing high school than urban candidates – 37 percent and 32 percent, respectively. On the other hand, urban candidates were more likely to indicate “got pregnant/made someone pregnant” than rural ones (28 percent and 24 percent, respectively). Overall, 18 percent of candidates indicated “needed money to help out at home,” 18 percent indicated “personal/family illness,” and 16 percent indicated “needed at home to care for family members” as family-related reasons for not completing high school. About 11 percent of candidates indicated their parents did not support their education, 11 percent “lacked a

good place to study at home,” and 10 percent cited “other family members did not complete high school” as family-related reasons. Less than 10 percent of the candidates indicated the following family-related reasons for not completing high school: “family moved too often” (8 percent), “job took too much time” (7 percent), “got married” (6 percent), and “didn’t have enough money to go to school” (4 percent). On average, rural and urban candidates indicated 1.7 family-related reasons for not completing high school.

The most frequently indicated social-related reason for not completing high school was “wasn’t happy in school,” which was indicated by 52 percent of rural and 47 percent of urban candidates. Rural and urban candidates indicated the following social-related reasons for not completing high school: “had emotional problems” (26 percent rural, 29 percent urban), “did not feel part of the school” (25 percent total), and “social life was more important than school work” (24 percent total). Also, 25 percent of rural candidates indicated “did not get along with teachers” as a reason for not completing high school; this reason was indicated by a smaller percentage of urban candidates (18 percent).

The candidates indicated the following as social-related reasons for not completing high school: “did not get along with other students” (21 percent rural, 16 percent urban) and “got suspended/expelled” (18 percent total). Other less frequently mentioned social-related reasons

for not completing high school were “too old for grade” (14 percent total), “had drug problems” (12 percent total), “had alcohol problems” (7 percent total), “had problems with law/police” (11 percent total), “school official told test taker to leave” (9 percent total), and “did not feel safe at school” (7 percent total). Overall, candidates indicated about 2.4 social-related reasons for not completing high school, on average.

The most commonly indicated academic environment-related reason for not completing high school was “did not like school,” as indicated by 63 percent of rural and 56 percent of urban candidates. Other academic environment-related reasons for rural and urban candidates were “being bored” (42 percent total), “teachers did not help enough” (24 percent rural, 21 percent urban) and “poor teaching” (21 percent total). Less frequently cited reasons were “could not adjust to school routine” (15 percent rural, 18 percent urban), “couldn’t work and study at the same time” (14 percent rural, 16 percent urban), “school work was too easy” (11 percent total), “school did not offer courses wanted by test taker” (7 percent total), and “not enough vocational/technical courses” (4 percent total). On average, rural and urban candidates indicated two academic environment-related reasons for not completing high school.

The most common reason related to student performance was “absent too many times,” as indicated by 56 percent of rural and 61 percent of urban candidates. Other frequently indicated student performance-related reasons for not completing high school were “had trouble with math” (40 percent total), “poor study habits” (43 percent rural, 40 percent urban), and “poor grades” (36 percent rural, 29 percent urban). “Poor test scores” were also indicated by a substantial percentage of rural and urban candidates (27 percent and 21 percent, respectively). Rural and urban candidates indicated the following student performance-related reasons for not completing high school: “had trouble with reading” (9 percent total), “school work was too hard” (6 percent total), “homework was too hard” (5 percent total), and “had trouble understanding the English language” (2 percent total).<sup>14</sup> On average, candidates indicated about 2.2 student performance-related reasons for not completing high school.

Figure 4 presents key similarities between rural and urban candidates, while Figure 5 presents the key differences.

Age:	24 years old (on average)
Prior Educational Attainment:	10 <sup>th</sup> grade (on average)
Income:	Under \$5,000 the year prior to taking the test (58 percent)
How First Learned about the GED:	Most common source was friend, neighbor or family member
Reasons for Taking the GED:	Most commonly indicated reasons <ul style="list-style-type: none"> <li>• personal satisfaction, and</li> <li>• to get a better job</li> </ul>
Preparing for the GED:	Most commonly indicated methods/approaches <ul style="list-style-type: none"> <li>• home study,</li> <li>• public school adult education class,</li> <li>• being self-taught, and</li> <li>• official practice tests</li> </ul>
Reasons for Not Completing High School	Most commonly indicated Family-related reason was “got a job” Most commonly indicated Social-related reason was “wasn’t happy in school” Most commonly indicated Academic environment-related reason was “did not like school” Most commonly indicated Student Performance-related reason was “absent too many times” Equally likely to indicate “had trouble with math” (40 percent) About equally likely to indicate “was bored”

<sup>14</sup> The small percentage of candidates who indicated “had trouble understanding the English language” is due to the analyses being limited to candidates whose primary language was English.

Figure 5: Differences Between Rural and Urban GED Candidates		
	Rural	Urban
Ethnicity:	Primarily white (85 percent)	Majority were white (63 percent), but greater percentage were black, African American or African descent, or Hispanic
Gender:	Fairly evenly split on gender (49 percent female and 51 percent male)	Slightly more likely to be female (53 percent female and 47 percent male)
Single Parent:	Less likely to be a single parent (58 percent) than urban candidates	More likely to be a single parent (69 percent) than rural candidates
Public Assistance:	More likely to be receiving public assistance (47 percent)	Less likely to be receiving public assistance (43 percent)
Current Status:	Less likely to be unemployed (seeking employment), although unemployed rural candidates constituted largest group (34 percent)  Employed full-time constituted 2nd largest group (31 percent)  More likely to be full-time student (15 percent) than urban candidates	More likely to be unemployed (seeking employment), and unemployed urban candidates constituted largest group (39 percent)  Employed full-time constituted 2nd largest group (33 percent)  Less likely to be a full-time student (8 percent) than rural candidates
Distance Traveled to Take GED:	Traveled further than urban candidates, although traveled less than 25 miles, on average	Majority (65%) traveled 1-10 miles to take GED
Able to Take GED When Chose:	Majority (73 percent) did not have to wait to take GED	Although majority (66 percent) did not have to wait to take GED, urban candidates were more likely to have to wait 1-4 weeks
Reasons for Taking the GED:	Majority (56 percent) indicated personal satisfaction  Less likely to indicate entering a 2-year college (19 percent), a 4-year college/university (15 percent), or enrolling in a technical or trade program (21 percent)	Majority indicated personal satisfaction (51 percent), urban candidates were less likely to do so than rural candidates  More likely to indicate entering a 2-year college (26 percent), a 4-year college/university (20 percent), or enrolling in a technical or trade program (23 percent)
Preparing for the GED:	<ul style="list-style-type: none"> <li>• More likely to use the official practice tests (26 percent)</li> <li>• More likely to use public school adult education class (25 percent)</li> <li>• Less likely to indicate being self-taught (21 percent)</li> </ul>	<ul style="list-style-type: none"> <li>• Less likely to use the official practice tests (20 percent)</li> <li>• Less likely to use public school adult education class (22 percent)</li> <li>• More likely to indicate being self-taught (24 percent)</li> </ul>
Reasons for Not Completing High School	<p>Family:</p> <ul style="list-style-type: none"> <li>• More likely to indicate “got a job” (37 percent)</li> <li>• Less likely to indicate “got pregnant/made someone pregnant” (24 percent)</li> </ul> <p>Social:</p> <ul style="list-style-type: none"> <li>• More likely to indicate “wasn’t happy in school” (52 percent)</li> </ul> <p>Academic environment:</p> <ul style="list-style-type: none"> <li>• More likely to indicate “did not like school” (63 percent)</li> <li>• About equally likely to indicate “was bored” (43 percent)</li> </ul> <p>Student Performance:</p> <ul style="list-style-type: none"> <li>• Less likely to indicate “was absent too many times” (56 percent)</li> <li>• More likely to indicate “poor study habits” (43 percent)</li> <li>• More likely to indicate “poor grades” (36 percent)</li> </ul>	<p>Family:</p> <ul style="list-style-type: none"> <li>• Less likely to indicate “got a job” (32 percent)</li> <li>• More likely to indicate “got pregnant/made someone pregnant” (28 percent)</li> </ul> <p>Social:</p> <ul style="list-style-type: none"> <li>• Less likely to indicate “wasn’t happy in school” (47 percent)</li> </ul> <p>Academic environment:</p> <ul style="list-style-type: none"> <li>• Less likely to indicate “did not like school” (56 percent)</li> <li>• About equally likely to indicate “was bored” (42 percent)</li> </ul> <p>Student Performance:</p> <ul style="list-style-type: none"> <li>• More likely to indicate “was absent too many times” (61 percent)</li> <li>• Less likely to indicate “poor study habits” (40 percent)</li> <li>• Less likely to indicate “poor grades” (29 percent)</li> </ul>
Performance on the GED	<ul style="list-style-type: none"> <li>• Took more tests at individual sittings, on average 3.2</li> <li>• More likely to complete the GED (91 percent)</li> <li>• More likely to pass the GED (79 percent)</li> <li>• Total score was lower, on average, among those passing the GED (2,657)</li> </ul>	<ul style="list-style-type: none"> <li>• Took fewer tests at individual sittings, on average 2.4</li> <li>• Less likely to complete the GED (86 percent)</li> <li>• Less likely to pass the GED (69 percent)</li> <li>• Total score was higher, on average among those passing the GED (2,668)</li> </ul>

### Characteristics Influencing GED Outcomes

This section presents results from a series of analyses that were used to determine the most significant factors associated with completing the GED.

The analysis included data for 14,351 rural candidates who completed the GED and 13,250 rural candidates who passed the GED. It also included data for 37,554 urban candidates who completed the GED and 32,932 urban candidates who passed the GED.

The results indicated that the following factors were significantly associated with rural candidates completing the GED:

- Being white,
- Being younger in age,
- Traveling further to take the GED,
- Personal satisfaction as a reason for taking the GED, and
- Taking the official practice tests as a means of preparing for the GED.

On the other hand, rural candidates who indicated that they did not complete high school because they had trouble reading were less likely to complete the GED.

Variables significantly associated with passing the GED for rural candidates were:

- Having a higher level of educational attainment (highest grade completed),
- Being younger in age,
- Earning more money the year prior to taking the GED,
- Enrolling in a technical or trade program as a reason for taking the GED,
- Indicating personal satisfaction as a reason for taking the GED,
- Not completing high school because the school work was too easy, and
- Not completing high school because of being absent too many times.

The results for urban candidates were consistent with those for rural candidates. The following factors were associated with urban candidates completing the GED:

- Being white,
- Having a higher level of educational attainment (highest grade completed),
- Being younger in age,
- Earning more money the year prior to taking the GED,
- Indicating reasons for taking the GED as entering 2-year college, entering 4-year college/university, military entrance, and personal satisfaction,
- Using community college adult education class, Internet/computer, official practice tests, being self-taught, and none to prepare for the GED,
- Having more years of English/literature from 9<sup>th</sup> grade until end of schooling, and
- Citing the following reasons for not completing high school: wasn't happy in school, schoolwork was too easy, and was absent too many times.

Factors associated with urban candidates passing the GED were as follows:

- Being male,
- Being white,
- Having a higher level of educational attainment (highest grade completed),
- Being younger in age,
- Earning more money the year prior to taking the GED,
- Entering a 4-year college/university or a 2-year college as reasons for taking the GED, or indicating personal satisfaction as a reason for taking the GED,
- Preparing for the GED through official practice tests, Internet/computer, being self-taught, or no preparation,
- Having more years of English/literature study from 9<sup>th</sup> grade until end of schooling, and
- Having fewer years of social studies from 9<sup>th</sup> grade until end of schooling.

## Program Factors Influencing GED Outcomes

The researchers next examined the relationship between several program factors and whether the test taker completed and passed the GED. Program factors examined were the test taker's educational functioning level (EFL) on entry into the adult education program, the intensity of the test taker's participation, and the level of persistence in the program. The researchers measured entry EFL using standardized assessment instruments, such as the Tests of Adult Basic Education (TABE) or Comprehensive Adult Student Assessment Systems (CASAS), which measure an adult's functioning level in subject areas, such as reading, math, or language. An EFL is not the same as a grade level, rather it indicates "a set of skills and competencies" in the area being tested (U.S. Department of Education, 2010). The researchers measured the intensity of participation by determining whether the test taker participated in an average of 50 hours or more of instruction for every year they participated in the program. Persistence was measured by the length of time (number of days) the test taker was in the program.

Rural test taker's entry EFL was significantly higher than that of urban candidates. On a scale of 1 to 6, rural test taker's average was 4.9 compared to 4.6 for urban candidates.<sup>15</sup> On the other hand, urban candidates' level of participation was significantly more intense and persistent than that of rural candidates. A total of 37 percent of urban candidates participated in an average of 50 hours or more per year of instruction, while 29 percent of rural candidates achieved this level of intensity in participation. Also, urban candidates participated in an adult education program about one month longer than rural candidates – urban candidates participated an average of 285 days (close to 9.5 months) compared to 252 days (close to 8.5 months) for rural candidates. The greater level of participation by urban candidates may have occurred because they entered the adult education program at a somewhat lower level of educational functioning, on average. A higher level of participation would be needed by urban candidates, compared to rural candidates, to prepare themselves for the GED, on average.

To determine the impact of these three programmatic factors on whether rural and urban candidates completed and passed the GED, the researchers entered the programmatic variables into the statistical model. As before, separate models were estimated for rural and urban candidates, and the last year the test taker took the GED, the number of times the test taker took the GED, and the number of days between the first and last administration of the GED were controlled. The variables measuring reasons for

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<sup>15</sup> The six levels are as follows: 1= beginning literacy adult basic education (ABE), 2=beginning ABE, 3=low intermediate ABE, 4=high intermediate ABE, 5=low adult secondary, and 6=high adult secondary.

not completing high school and the number of years of schooling since 9<sup>th</sup> grade were excluded due to the missing data associated with these variables.

The number of rural and urban candidates included in the analyses of whether candidates completed the GED was 6,777 and 14,167, respectively. The number of rural and urban candidates included in the analyses examining the relevance of programmatic factors for passing the GED (among those who had completed it) was 6,403 and 12,765, respectively.

Results from the analyses indicate that all three programmatic variables were significantly related at the 0.001 level to completing and passing the GED among rural candidates. For urban candidates, entry EFL and persistence were significantly related to completing and passing the GED, but intensity of participation was not. Both rural and urban candidates who entered the adult education program at a higher EFL were more likely to both complete and pass the GED. On the other hand, rural and urban candidates who stayed in the program longer were less likely to complete the GED or to pass it.

For rural candidates, those who participated at a more intense level were more likely to complete the GED: that is, rural candidates who participated, on average, in at least 50 hours of adult education instruction per year were more likely to complete the GED than those who participated for fewer hours. On the other hand, rural candidates who participated in an average of 50 or more hours of instruction per year were less likely to pass the GED than those who participated at a lower level of intensity. While the results for urban candidates were not statistically significant for this measure of intensity, they were consistent with the direction of the effect observed for rural candidates.

The finding that greater participation was associated with a reduced likelihood of passing the GED is counter-intuitive. Consequently, additional analyses were conducted to better understand the underlying factors leading to this result. Program participants who entered the adult education program at a higher level were less likely to participate in at least 50 hours of instruction a year (participated at a lower level of intensity) and participated for a fewer number of days (were less persistent). Moreover, having a higher entry level was significantly associated at the 0.001 level with greater achievement in high school (completing more years and achieving a higher grade in English/literature, composition, social studies, science, and math, as well as taking a greater variety of coursework in English, science, social studies, and math). Consequently, participants who participated at a greater level of intensity and persistence tended to be further behind on entry into the adult education program than those who participated at a lower level of intensity and persistence. At the same time, results from the prior set of analyses indicated that being further behind on entry decreases a test taker's chances of doing well on the test.

The above discussion leads to the suggestion that participating in at least 50 hours of adult education instruction did not counterbalance the negative impact of entering the program at a lower level on GED performance (passing the GED, and total score obtained). However, it is beyond the scope of this project to estimate the number of hours needed to counterbalance this negative effect. The consistent negative effect of persistence on both completing and passing the GED suggests that increasing intensity of participation is more important for helping candidates who enter adult education programs at a lower level to do better on the GED.

### **Effect of Variables Measured by U.S. Demographics Survey on GED Outcomes**

Several variables from the U.S. Demographics survey also were significantly associated at the 0.001 level with whether rural and urban candidates completed and passed the GED. Rural candidates were more likely to complete the GED if they were younger, earned more money the year prior to taking the GED, took the GED for reasons of personal satisfaction, or prepared for the GED with the official practice tests. They were more likely to not complete the GED if they used an employment and/or training program to prepare for the GED. Rural candidates were more likely to pass the GED if they traveled a greater distance to take the test, or if their reasons for taking the GED were to enter a 4-year college/university or personal satisfaction.

The following variables were significantly related to whether urban candidates were more likely to complete and pass the GED: being white, being younger in age, and entering a 2-year college as a reason for taking the GED. Several other factors were uniquely associated with whether urban candidates completed or passed the GED. Additional factors related to whether urban candidates completed the GED included completing a higher grade in high school, and preparing for the GED through a community college adult education class, or employment and/or training program. Part-time students or those who used the GED Option to prepare for the GED were less likely to complete the GED among urban candidates. Additional factors related to whether urban candidates passed the GED included earning more the year prior to taking the test, taking the official practice tests to prepare for the GED, or taking the GED to enter a 4-year college/university or for personal satisfaction.

### **Comparison of Adult Education Participants and Non-Participants**

There were 28,862 candidates who participated in an adult education program prior to taking the GED, which comprised approximately 42 percent of the candidates included in the analyses.

Adult education program participants were found to be

significantly more likely to complete all five tests of the GED than non-program participants for both rural and urban candidates. Further analysis indicated that rural program participants were 50 percent more likely to complete the GED than rural non-program participants, while urban program participants were only 11 percent more likely to complete the GED than urban non-program participants. The effect for rural candidates is significantly greater than the effect for urban candidates.

## Factors Associated with Obtaining Higher Scores on the GED

The researchers used the eData/GED longitudinal database to estimate the influence of factors associated with obtaining a higher total GED score among rural and urban candidates who had passed the GED. The researchers used separate multiple regression analyses for rural and urban candidates to address this goal. The three program variables measuring entry EFL, intensity and persistence of participation were entered into the models for rural and urban participants. Also, the last year the test taker took the GED, the number of times the test taker took the GED, and the number of days between the first and last administration of the GED were controlled.

There were 5,646 and 10,658 rural and urban candidates, respectively, included in these analyses. The mean total score on the GED was 2,654 for rural candidates and 2,626 for urban candidates. The lowest possible passing score was 2,250, while the highest possible score was 4,000. As in the prior analyses presented in this report, 0.001 was used to define a statistically significant effect.

For both rural and urban candidates, the entry EFL was the most important variable in the model affecting GED scores, with candidates entering at a higher EFL scoring higher on the GED. Other statistically significant factors associated with a higher score on the GED for rural candidates who had passed the GED were:

- Being in the adult education program a fewer number of days (lower level of persistence),
- Completing a higher grade prior to leaving high school,
- Earning more money the year prior to taking the GED,
- Taking the GED to enter a 4-year college/university or for personal satisfaction, and
- Preparing for the GED using the official practice tests.

In contrast, rural candidates who used home study or an employment and/or training program to prepare for the GED were more likely to receive a lower score.

For urban candidates, factors related to a higher GED score were participating in the adult education program at a lower level of intensity and persistence (participating less than 50 hours of instruction per year and fewer days in the program), being male, being white, complet-

ing a higher grade prior to leaving high school, earning more money the year prior to taking the GED, taking the GED to enter a 4-year or 2-year college/university, or for reasons of personal satisfaction, and preparing for the GED using official practice tests, community-based organizations, or being self-taught. Urban candidates who used home study to prepare for the GED or took the GED to get a better job were more likely to receive lower scores on the GED.

## Conclusions

The analyses helped to provide a picture of GED candidates that should be familiar to most educators, particularly those who teach adults in GED preparation or other ABE classes. Their characteristics provide insight into what motivates them to attend classes – or study independently – once they have left the K-12 education system. These adults, regardless of their being rural or urban, have some common characteristics as well as differences. Generally, adults seeking the GED credential in Pennsylvania are:

- Young (average age of 24),
- Completed 10<sup>th</sup> grade before dropping out, and
- Dropped out because they were bored and/or had trouble with math classes.

They also have been out of school long enough to want to complete their high school education for either personal satisfaction or for economic reasons. While about one third are employed full-time, about 60 percent reported income of less than \$5,000 a year. These individuals want a better job and 20 percent wanted to enter a trade or technical school.

Learning about the GED through friends, neighbors, or family members, they have prepared for the tests either in an adult education class in a public school or independently at home.

Although adults seeking the GED credential in Pennsylvania had characteristics in common, differences between urban and rural GED candidates were also evident. Some of these differences might be expected. For example, rural adults travel farther than urban adults to take the GED tests, and a greater percentage of urban adults are ethnically diverse.

Other differences, perhaps less expected, include areas in which rural GED candidates are more or less likely than their urban counterparts to have certain characteristics.

For example, rural GED candidates are less likely than urban candidates to: be female, be single parents, have dropped out of school due to getting pregnant or making someone pregnant, be unemployed (seeking employment), and/or have entry into a 2-year or 4-year college as a goal.

Also, rural GED candidates are more likely than urban candidates to: have dropped out of high school because of a job; have dropped out of high school because they were

not happy in school, did not like school, had poor study habits, or poor grades; be receiving public assistance; and have completed and passed the GED — although total rural GED scores are lower than urban GED scores by an average of 11 points.

Based on the data used in this study, a significant number of adults without a high school credential do not become GED candidates. While some become GED candidates, only about 40 percent take advantage of services available through ABLÉ's services. Taking advantage of ABLÉ's services, which include adult education and family literacy services, and the federal Workforce Investment Act, Title II and William F. Goodling Even Start Family Literacy Program, these adults can be taking that important first step. On entering one of these programs, the students are tested with a standardized basic skills assessment and assigned an Educational Functioning Level (EFL). Students who are assessed at close to the top of the range for high intermediate adult basic education are significantly more likely to pass the GED, and to pass with higher overall scores.

Program staff might consider student similarities and differences when planning and offering educational counseling and programs to students with sufficiently high EFLs who are seeking a GED credential. Although the general characteristics of adult learners will vary widely, both rural and urban adult education providers generally should consider the average age, years of schooling completed, reasons for dropping out of school, and current economic situation when developing classes for GED candidates.

To address the immediate educational needs and interests of these adults as quickly as possible, providers might, based on this study's analyses:

Offer short but intense and challenging classes that focus on refreshing skills candidates learned in high school to help them prepare for the GED. Improving math skills should be emphasized.

Provide counseling and link class content to work since many GED candidates want jobs – or better jobs – or additional education or training.

Help adults learn to use the resources available to make the transition from obtaining the GED to work or further training effectively.

GED candidates who have lower EFLs, particularly those with weak reading skills, would require additional time in an adult education program to develop the basic reading, writing, and math skills needed to pass the GED.

Rural adult education providers also might give special consideration to class schedules since adult work schedules, distance learning options due to travel distances, and the learning environment may pose challenges for rural adults. Program staff might also emphasize the relationship between higher GED scores and future success in the workplace to encourage GED candidates to excel rather than merely pass the GED.

Urban adult education providers might give special consideration to providing family literacy services, such as those funded under Pennsylvania's Adult Education and Family Literacy Act (Act 143) or the William F. Goodling Even Start Family Literacy Program, since more urban GED candidates are single parents.

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## Appendix A

Responses of Rural and Urban Pennsylvania Residents to the U.S. Demographics Survey, January 1, 2003 – December 31, 2008								
	Total		Rural		Urban		Differences between rural and urban (rural – urban)	
	n	Mean	n	Mean	N	Mean	t	Significant?
<b>Demographics, Accessibility and Other Preparatory Factors</b>								
Gender								
Female	68,314	52%	18,278	49%	50,036	53%	-8.838	yes
Male	68,314	48%	18,278	51%	50,036	47%	-8.838	yes
Ethnicity								
Hispanic origin or descent	64,945	7%	17,556	4%	47,389	9%	-24.888	yes
Black, African American or African descent	64,945	22%	17,556	10%	47,389	26%	-54.101	yes
White	64,945	69%	17,556	85%	47,389	63%	63.591	yes
Other (i.e., Am. Indian, Alaska Native, Asian, Native Hawaiian, Pacific Islander)	64,945	2%	17,556	1%	47,389	2%	-8.970	yes
Currently in military	67,091	1%	17,934	1%	49,157	1%	3.729	yes
Age	68,312	24.2	18,277	23.9	50,035	24.2	-3.499	yes
Highest grade completed	66,795	10.1	17,886	10.0	48,909	10.1	-7.206	yes
Total amount earned last year (mean is extrapolated)	61,660	\$5,800	16,349	\$5,800	45,311	\$6,025	-3.380	yes
How many miles traveled in one direction to take GED tests (mean is extrapolated)	65,429	12	17,684	16	47,745	10	46.841	yes
Able to take GED tests when chose (how long wait to take GED tests: mean is extrapolated)	62,620	5 days	17,104	4 days	45,516	5 days	-15.306	yes
Pay for test preparation	66,454	44%	17,909	38%	48,545	47%	-21.647	yes
# of hours spent preparing for GED tests	68,106	95.2	18,230	75.4	49,876	102.4	-7.863	yes
Take the Official GED Practice Tests	67,729	60%	18,159	72%	49,570	56%	41.352	yes
<b>Reasons for taking GED</b>								
Enroll in technical or trade program	66,686	22%	17,768	21%	48,918	23%	-5.467	yes
Enter 2-year college	66,686	24%	17,768	19%	48,918	26%	-19.064	yes
Enter 4-year college/university	66,686	19%	17,768	15%	48,918	20%	-15.572	yes
Skills certification	66,686	7%	17,768	8%	48,918	7%	1.914	no
Job training	66,686	11%	17,768	11%	48,918	11%	-0.313	no
Get 1 <sup>st</sup> job	66,686	6%	17,768	7%	48,918	5%	7.727	yes
Keep current job	66,686	3%	17,768	3%	48,918	3%	-0.082	no
Get a better job	66,686	45%	17,768	46%	48,918	45%	2.450	no
Employer requirement	66,686	9%	17,768	10%	48,918	9%	3.139	no
Military entrance	66,686	5%	17,768	7%	48,918	5%	9.002	yes
Military career	66,686	2%	17,768	3%	48,918	2%	7.034	yes
Early release	66,686	1%	17,768	1%	48,918	1%	-1.795	no
Court order	66,686	3%	17,768	3%	48,918	3%	-1.678	no
Public assistance requirement	66,686	3%	17,768	2%	48,918	3%	-4.408	yes
Role model for family	66,686	20%	17,768	20%	48,918	20%	-0.101	no
Personal satisfaction	66,686	52%	17,768	56%	48,918	51%	10.306	yes
Other	66,686	12%	17,768	14%	48,918	11%	6.924	yes
Total # reasons indicated for taking test	66,686	2.44	17,768	2.43	48,918	2.44	-1.008	no

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Responses of Rural and Urban Pennsylvania Residents to the U.S. Demographics Survey, January 1, 2003 – December 31, 2008								
	Total		Rural		Urban		Differences between rural and urban (rural – urban)	
	n	Mean	n	Mean	N	Mean	t	Significant?
<b>Current Status</b>								
Employed part-time (20 or fewer hrs/wk)	66,021	15%	17,714	13%	48,307	16%	-8.629	yes
Employed full-time	66,021	32%	17,714	31%	48,307	33%	-3.193	yes
Unemployed (seeking employment)	66,021	38%	17,714	34%	48,307	39%	-11.946	yes
Permanent disability	66,021	1%	17,714	1%	48,307	1%	-0.160	no
Not in labor force (unemployed by choice)	66,021	3%	17,714	3%	48,307	3%	0.810	no
Not in labor force (homemaker, family caregiver)	66,021	4%	17,714	5%	48,307	4%	6.808	yes
Retired	66,021	0%	17,714	0%	48,307	0%	1.772	no
Full-time student	66,021	10%	17,714	15%	48,307	8%	25.286	yes
Part-time student	66,021	5%	17,714	2%	48,307	5%	-18.460	yes
<b>Status at Time of Testing</b>								
Health facility	23,811	3%	5,557	3%	18,254	3%	-2.888	no
Receiving public assistance	23,811	44%	5,557	47%	18,254	43%	5.643	yes
Single parent	23,811	66%	5,557	58%	18,254	69%	-14.582	yes
Emancipated minor	23,811	10%	5,557	12%	18,254	10%	3.975	yes
<b>How First Learned About GED Tests</b>								
Friend, neighbor or family member	66,204	56%	17,670	58%	48,534	56%	4.628	yes
Classmate	66,204	6%	17,670	7%	48,534	6%	4.339	yes
School guidance counselor or teacher	66,204	26%	17,670	26%	48,534	26%	0.474	no
Television	66,204	3%	17,670	4%	48,534	3%	4.412	yes
Radio	66,204	1%	17,670	1%	48,534	1%	2.057	no
Magazine	66,204	1%	17,670	1%	48,534	1%	-1.254	no
Newspaper	66,204	3%	17,670	5%	48,534	2%	15.024	yes
Brochure, pamphlet, poster	66,204	4%	17,670	4%	48,534	4%	2.160	no
Employer	66,204	3%	17,670	4%	48,534	3%	6.008	yes
Employer counselor	66,204	2%	17,670	3%	48,534	2%	5.169	yes
Education agency	66,204	6%	17,670	6%	48,534	6%	1.902	no
Jail or prison official	66,204	1%	17,670	1%	48,534	1%	-0.678	no
Probation/parole officer	66,204	3%	17,670	3%	48,534	3%	1.075	no
Military recruiting officer	66,204	3%	17,670	3%	48,534	2%	5.884	yes
Social worker	66,204	4%	17,670	4%	48,534	4%	-1.345	no
Other	66,204	22%	17,670	20%	48,534	22%	-4.282	yes
Total # indicated for how 1 <sup>st</sup> learned about program	66,204	1.44	17,670	1.50	48,534	1.42	9.139	yes
<b>How Prepare for GED Tests</b>								
Public school adult education class	65,282	23%	17,474	25%	47,808	22%	9.892	yes
Community college adult education class	65,282	8%	17,474	4%	47,808	10%	-26.168	yes
Television	65,282	1%	17,474	0%	47,808	1%	-4.231	yes
Internet/computer	65,282	12%	17,474	11%	47,808	12%	-3.236	yes
Distance learning	65,282	1%	17,474	1%	47,808	1%	4.273	yes
Correspondence school	65,282	0%	17,474	0%	47,808	0%	-1.126	no
Charter school	65,282	0%	17,474	0%	47,808	0%	-1.066	no

Responses of Rural and Urban Pennsylvania Residents to the U.S. Demographics Survey, January 1, 2003 – December 31, 2008								
	Total		Rural		Urban		Differences between rural and urban (rural – urban)	
	n	Mean	n	Mean	N	Mean	t	Significant?
Home study	65,282	28%	17,474	28%	47,808	28%	-1.988	no
Homeschooling instead of K-12	65,282	1%	17,474	1%	47,808	1%	5.685	yes
Official Practice Tests	65,282	21%	17,474	26%	47,808	20%	16.016	yes
Correctional facility	65,282	1%	17,474	1%	47,808	1%	-2.632	no
Family literacy	65,282	2%	17,474	3%	47,808	2%	11.366	yes
Library	65,282	6%	17,474	5%	47,808	7%	9.820	yes
Workplace literacy program	65,282	2%	17,474	1%	47,808	2%	-14.236	yes
Community based organization	65,282	9%	17,474	8%	47,808	10%	-8.782	yes
Army “GED Plus”	65,282	0%	17,474	0%	47,808	0%	3.423	yes
Project Challenge	65,282	0%	17,474	0%	47,808	0%	-1.369	no
GED Option	65,282	4%	17,474	4%	47,808	4%	-2.706	no
Homeless program	65,282	0%	17,474	0%	47,808	0%	-9.150	yes
Military installation	65,282	0%	17,474	0%	47,808	0%	1.207	no
Faith-based program	65,282	0%	17,474	0%	47,808	1%	-7.194	yes
Migrant worker/HEP program	65,282	0%	17,474	0%	47,808	0%	0.231	no
Job Corps	65,282	7%	17,474	14%	47,808	4%	34.133	yes
Private tutor	65,282	2%	17,474	2%	47,808	2%	-2.347	no
Literacy volunteer program	65,282	2%	17,474	3%	47,808	2%	11.501	yes
Employment &/or training program	65,282	5%	17,474	4%	47,808	6%	-11.207	yes
Self-taught	65,282	23%	17,474	21%	47,808	24%	-8.123	yes
None	65,282	9%	17,474	8%	47,808	10%	-6.299	yes
Total# methods/approaches listed (excluding “none”)	65,282	1.60	17,474	1.64	47,808	1.59	4.244	yes
<b>Total Years (or equivalent) of Study Completed from 9<sup>th</sup> Grade Until Completed Schooling (1=1 yr or less; 2=2; 3=3; 4=4+)</b>								
English/Literature	59,481	2.40	15,778	2.39	43,703	2.40	-0.777	no
Science	59,123	2.36	15,707	2.36	43,416	2.36	0.295	no
Composition	53,536	2.10	13,970	2.06	39,566	2.12	-5.665	yes
Mathematics	59,048	2.44	15,694	2.45	43,354	2.44	0.772	no
Social studies	59,080	2.38	15,673	2.39	43,407	2.38	0.784	no
<b>Grade Mostly Received in Subject (1=A; 2=B; 3=C; 4=D; 5=E)</b>								
English/literature	55,176	2.68	14,579	2.71	40,597	2.67	4.495	yes
Science	55,013	2.78	14,537	2.75	40,476	2.79	-4.781	yes
Composition	48,741	2.73	12,680	2.74	36,061	2.73	1.677	no
Mathematics	55,139	2.87	14,575	2.82	40,564	2.89	-6.197	yes
Social studies	54,858	2.72	14,484	2.73	40,374	2.71	2.104	no
<b>Number of Courses Taken from 9<sup>th</sup> Grade Until Completed Schooling in:</b>								
English/literature (range:0-4)	52,521	1.55	13,910	1.55	38,611	1.55	0.628	no
Languages (range:0-6)	32,848	1.16	7,915	1.17	24,933	1.16	1.899	no
Science (range:0-8)	59,707	2.58	15,900	2.59	43,807	2.58	0.970	no
Social studies (range:0-7)	59,350	2.64	15,796	2.69	43,554	2.62	5.660	yes
Mathematics (range:0-7)	59,481	2.38	15,794	2.30	43,687	2.41	-9.179	Yes

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Responses of Rural and Urban Pennsylvania Residents to the U.S. Demographics Survey, January 1, 2003 – December 31, 2008								
	Total		Rural		Urban		Differences between rural and urban (rural – urban)	
	n	Mean	n	Mean	N	Mean	t	Significant?
<b>Academic Environment</b>								
Couldn't work & study at same time	44,112	15%	11,844	14%	32,268	16%	-3.319	yes
Poor teaching	44,112	21%	11,844	21%	32,268	21%	0.430	no
School did not offer courses wanted by test taker	44,112	7%	11,844	7%	32,268	6%	1.650	no
Not enough vocational/technical courses	44,112	4%	11,844	4%	32,268	4%	1.769	no
Teachers did not help enough	44,112	22%	11,844	24%	32,268	21%	5.179	yes
School work was too easy	44,112	11%	11,844	10%	32,268	11%	-2.073	no
Could not adjust to school routine	44,112	17%	11,844	15%	32,268	18%	-7.829	yes
Did not like school	44,112	58%	11,844	63%	32,268	56%	13.967	yes
Was bored	44,112	42%	11,844	43%	32,268	42%	1.983	no
Total # academic environment-related reasons for not completing HS	44,112	1.96	11,844	2.01	32,268	1.94	5.114	yes
<b>Student Performance</b>								
Had trouble with math	46,704	40%	12,408	40%	34,296	40%	0.491	no
Had trouble with reading	46,704	9%	12,408	10%	34,296	8%	6.506	yes
Poor grades	46,704	31%	12,408	36%	34,296	29%	13.286	yes
Poor test scores	46,704	22%	12,408	27%	34,296	21%	13.392	yes
School work was too hard	46,704	6%	12,408	7%	34,296	6%	4.086	yes
Homework was too hard	46,704	5%	12,408	6%	34,296	5%	5.628	yes
Poor study habits	46,704	40%	12,408	43%	34,296	40%	6.103	yes
Had trouble understanding the English language	46,704	2%	12,408	3%	34,296	2%	4.082	yes
Was absent too many times	46,704	60%	12,408	56%	34,296	61%	-9.138	yes
Total # student performance-related reasons for not completing HS	46,704	2.16	12,408	2.28	34,296	2.11	10.352	yes



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