

Community Assistantship Program

...a program of the Center for Urban and Regional Affairs (CURA)

Understanding the Importance of Research at Community Colleges and Workforce Centers

Prepared in partnership with
Stearns-Benton Employment & Training Council
St Cloud Technical and Community College

Prepared by
Evan Mulfinger
Research Assistant
University of Minnesota

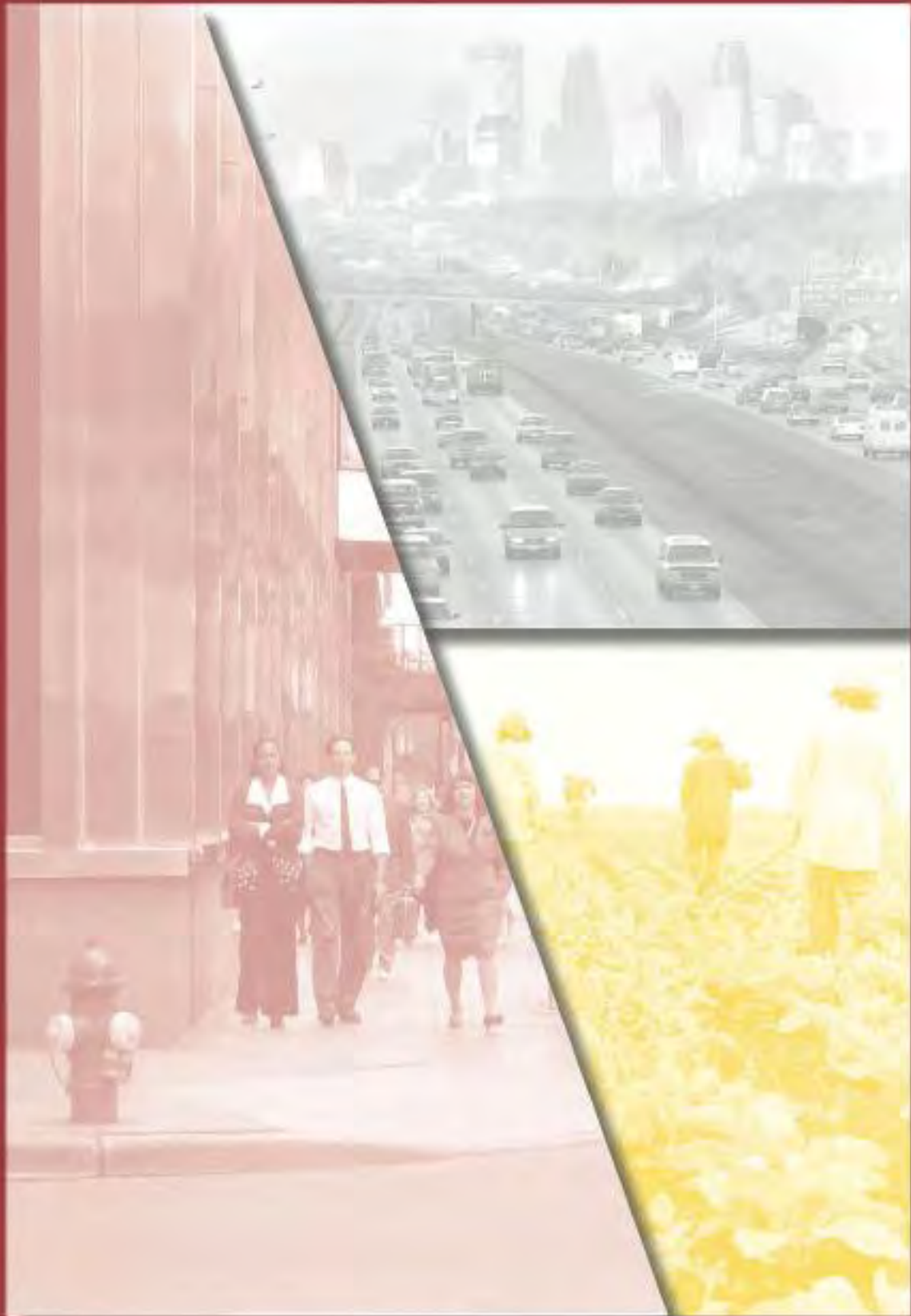
2012

CAP Report # CAP 171

*This report is available on the CURA website:
<http://www.cura.umn.edu/publications/search>*

Center for Urban and
Regional Affairs (CURA)

UNIVERSITY OF MINNESOTA
Driven to Discover™



Center for Urban and
Regional Affairs (CURA)

UNIVERSITY OF MINNESOTA
Driven to Discover™

CAP is a cross-college, cross-campus University of Minnesota initiative coordinated by the Center for Urban and Regional Affairs (CURA). Funds for CAP were generously provided by the McKnight foundation and the Blandin foundation.

This is a publication of the Center for Urban and Regional Affairs (CURA), which connects the resources of the University of Minnesota with the interests and needs of urban communities and the region for the benefit of all. CURA pursues its urban and regional mission by facilitating and supporting connections between state and local governments, neighborhoods, and nonprofit organizations, and relevant resources at the University, including faculty and students from appropriate campuses, colleges, centers or departments. The content of this report is the responsibility of the author and is not necessarily endorsed by CAP, CURA or the University of Minnesota.

© 2012 by The Regents of the University of Minnesota.



This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/> or send a letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA. Any reproduction, distribution, or derivative use of this work under this license must be accompanied by the following attribution: "© The Regents of the University of Minnesota. Reproduced with permission of the University of Minnesota's Center for Urban and Regional Affairs (CURA)." Any derivative use must also be licensed under the same terms. For permissions beyond the scope of this license, contact the CURA editor.

This publication may be available in alternate formats upon request.

Center for Urban and Regional Affairs (CURA)
University of Minnesota
330 HHH Center
301--19th Avenue South
Minneapolis, Minnesota 55455
Phone: (612) 625-1551
Fax: (612) 626-0273
E-mail: cura@umn.edu
Web site: <http://www.cura.umn.edu>

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

Table of Contents

Executive Summary	4
Introduction	5
Samples and Procedures	7
Limitations	9
Future Implications	11
Appendix	12
Figure 1: Sample Means	12
Figure 2: Age.....	12
Figure 3: Gender.....	13
Figure 4: Race	13
Figure 5: Most Recent Major One-Workforce Center Students	14
Figure 6: Most Recent Major Two-Workforce Center Students.....	15
Figure 7: Earned Degree Types: Workforce Center Students.....	16
Figure 8: Earned Degree Major: Workforce Center Students.....	17
Figure 9: Most Recent Major One: SCTCC	18
Figure 10: Most Recent Major Two: SCTCC.....	19
Figure 11: Earned Degree Type- SCTCC	20
Figure 12: Earned Degree Major- SCTCC	21
Figure 13: ACCUPLACER Scores	22
Figure 14: ACCUPLACER Means	22

Executive Summary

In collaboration with Stearns-Benton Employment & Training Council (SBETC) and St Cloud Technical and Community College (SCTCC), a graduate student was assigned to statistically analyze data containing all individuals who passed through both entities within the last five years. The primary objectives of this project were to describe the population passing through both the SBETC and SCTCC and to identify what variables led individuals to succeed in terms of degree and employment obtained. Due to lack of data on type of employment obtained (e.g. position, wage), this report focuses on degree attainment as an indicator of success. In order to make meaningful comparisons regarding degree attainment, a control group was set up using SCTCC students only. The control group was selected using a randomized process and consisted of students who were enrolled at SCTCC in the last five years. Individuals to be placed in the control group were selected based off demographic parameters obtained from the initial dataset.

After analyzing the data, it was found that the individuals passing through the SBETC only are significantly older than those who passed through both areas and those who passed through SCTCC only. Following the analysis of age, differences in regards to gender were found. In the dataset containing those who passed through the SBETC only, the percentage of females doubled the percentage of males. In the dataset containing those who passed through both the SBETC and SCTCC, the percentage of females tripled the percentage of males. And lastly, those who passed through the SCTCC had a slightly higher percentage of males.

After gender was examined, the percentages of race were identified. In all three samples, it was found that “White” was the majority and ranged from sixty-five percent to seventy-six

percent. The second highest percentage in all datasets was “Black or African American”. These percentages ranged from fifteen to twenty percent. All other race variables were less than five percent in each sample. All descriptive statistics including those previously discussed can be found in the appendix section of this report.

While comparing both student populations, it was revealed that higher scores on Basic Math and Elementary Algebra sections of the ACCUPLACER predicted that a student will complete their degree. A significant relationship was also identified between the numbers of years taken to complete a degree and the Basic Math section of the ACCUPLACER. As scores on the Basic Math section went up, the numbers of years it took to complete a degree went down. Although this correlation is low, it indicates that basic mathematical skills may play an important role in the time it takes to obtain a degree.

Introduction

Obtaining education is of paramount importance for any individual who seeks employment in the United States. As a result, it is important to examine all areas of education that can lead to employment in order to fully understand the workforce. Two areas that are currently being examined meticulously across the nation include community colleges and workforce centers. These two types of organizations have the potential to help close the skills gap that is rampant throughout the United States.

The continual trend of employment turning into high-skilled and specialized positions results in an increased demand in qualified applicants. This increased demand must be met in order to reduce skill gaps and match qualified applicants with specific positions. If this demand is not met, organizations have a high likelihood of experiencing turnover. The pattern of this

relationship can be cyclical in nature. If organizations are unable to hire qualified workers, they have a higher likelihood of wasting valuable financial resources. The waste of resources can then result in an organization hiring additional unqualified workers in order to save money. Although the initial investment may be low, it is likely that the unqualified employees will lead to additional losses of financial resources. If this pattern continues, it can result in a wide range of negative consequences. These potential consequences include downsizing, a loss of profits, and bankruptcy.

Having a large pool of unqualified workers does not only affect organizations, it affects individuals as well. If an individual does not receive adequate employment training, it is likely that they will not be qualified for high-skilled positions. Those individuals who are not qualified for high-skill positions may obtain employment that does not sustain their living. As a result, these individuals may not have financial resources to seek out additional education or obtain a higher-paying job. These particular cases are the most important to examine in order to prevent them from reoccurring. If patterns can be identified in this population and resources can be allocated to assist this population, it is likely that this number decreases dramatically. The data used in this report contains individuals that have experienced these issues and are looking for ways to improve their current financial status. Examining this population allows useful insight regarding the nation's workforce and can drive changes at the local, state, and national level.

Obtaining empirical evidence through statistical analysis is a vital part of this ongoing process. In order to make meaningful changes and better serve the population, workforce centers and community colleges need to make improvements using empirical evidence as support. Due to this, it is critical that these research efforts remain a top priority and that research databases are more easily accessible. It is difficult for an organization to obtain empirical support if they

are unable to access and analyze their own data. It is also difficult to analyze data that is not prepared properly for statistical analysis. If existing databases can be modified and/or be made available to workforce centers and community colleges, endless research possibilities will result. Experienced researchers must also be involved in this process in order to contribute insightfully and use the proper statistical techniques. Progress will be continuously impeded unless the necessary research-oriented adjustments are made to existing databases.

Although this report offers valuable insight, it is important to note that this is the first attempt to analyze this type of data. Due to this, there are limitations in terms of what information is available and how that information may be used. These limitations and how they can be overcome are discussed later in this report.

Samples and Procedures

To examine individuals who passed through both the SBETC and SCTCC, all data from the last five years was selected. This time frame was selected based off the workforce center changing locations right before this period. It was determined by subject matter experts that five years was a long enough period to provide sufficient data for analysis.

A dataset was obtained by working with faculty members at SCTCC. The initial data request involved receiving all relevant information on individuals who passed through both the SBETC and SCTCC. To determine the relevant information to collect, the researcher met with subject matter experts from both organizations. After multiple meetings and discussions, it was agreed that there were key variables that were to be requested. Once these requests were met, the data was modified in order to prepare for analysis. The dataset contained multiple string variables that were coded into numeric variables. New variables were also computed in order

properly label and sort the data. Creating and modifying existing variables prepared the dataset for merging.

After receiving the SBETC data from the Department of Employment and Economic Development (DEED), the four separate data files were combined into one. Upon combining the files, it was found that a large percentage of the data contained duplicates. After discussing the finding with subject matter experts, a new variable was created in order to label the duplicates. This variable was used in the analysis to control for the duplicate numbers in order to prevent those numbers from skewing the data. Upon completion of all organizational steps, the dataset was merged with the SCTCC dataset. All files were then merged into one large file using SPSS Statistics. SPSS Statistics was then used for all analyses computed for this project.

A control group was setup to provide meaningful comparisons. The control group consisted of students from the SCTCC who had similar demographic percentages and ranges. The demographic information used to set up the parameters was race and age. These two demographics were then used in order to randomly select a sample. The sample was randomly selected from a large database that included all individuals who passed through St Cloud Technical and Community within the last five years. The number of students chosen was based off the total number of individuals in the dataset containing data from both the SBETC and SCTCC. Preventative steps were taken to ensure that the control group did not contain any individuals that were present in existing dataset.

Coding majors and degree types from string to numeric variables allowed the researcher to quantify each major. As shown in the appendix, the most populated majors included HCT/Practical Nursing Emphasis, Sales & Management, Practical Nursing, and Liberal Arts and

Science. The most populated degree majors that were earned included Practical Nursing, Liberal Arts and Science, Health Information Technology, Advertising, and Electrical Construction Technology. The most populated degree types included Diploma and Associate in Applied Science.

To ensure confidentiality, preventative steps were taken. While reporting the most recent majors and degree majors of students, those with less than five individuals were left out. The same procedure was done with race data.

Limitations

The most critical limitation that resulted in multiple extensions of this project was the data. Although the project had everything in place in order to be successful, the data prevented that success from occurring on multiple occasions. During the initial steps of the data gathering process, the information was entered by hand. This was a result of the Stearns-Benton Employment & Training Council having a database that was not setup for exporting information. After weeks of entering the data by hand, the researcher received a suggestion to contact the organization that had access to the data. This suggestion led to a successful step in the data gathering process. The Department of Employment and Economic Development (DEED) agreed to provide the data after they were sent a summary of the objectives of the project and notification from the individuals in charge of the project.

Once the data was received, it was not setup for statistical analysis. The researcher was unable to complete the primary objectives without making multiple modifications to the datasets. In other words, the questions that needed to be answered could not be answered with the initial dataset. As a result, techniques were employed to prepare the data for analysis. Due to the

researcher's lack of experience applying the particular analyses needed for this project, the researcher utilized department faculty as resources. This action proved to be beneficial and greatly aided the project.

In addition to the data containing only those who passed through the SBETC, the dataset containing only St Cloud Technical and Community College students proved to be problematic. The issue with this dataset was that multiple variables were string variables. The string variables prevented the data from merging with the other dataset and preventing analysis. Because of this, the variables were coded into numbers. Of the multiple string variables, the variables containing majors and degrees proved to be the most problematic. These variables were problematic due to the researcher's lack of knowledge in regards to what majors have changed names, when the majors changed names, and what certain abbreviations meant. This lack of knowledge prompted multiple meetings with SCTCC faculty in order to fully understand which all majors and degrees. These helpful meetings allowed the project to progress but also took valuable time away from analysis. If majors are to be examined in follow-up studies, it is recommended that the researcher finds a systematic way to identify when majors have changed and what they have changed to.

The lack of one particular variable in SCTCC data also proved to be problematic. The dataset did not contain a variable that indicated whether a student was full or part-time. Not knowing the status of a student made it difficult to interpret the findings of the research. If a variable was available that labeled students as part-time or full-time, meaningful analyses could be done. Viewing the students separately would also allow for comparisons to be made. A useful comparison that could be made involves determining the difference between the numbers of semesters it takes to complete a degree for each type of student.

Another challenging area was the samples used in this project. Of the individuals that passed through St Cloud Technical and Community College, there was no data to indicate if they were displaced workers. This limited the comparisons that could be made between the control group and the group from SBETC. If a true control group was to be set up, the control group would need individuals who were displaced workers that attend SCTCC only. Although it is unlikely to get data to match these characteristics, it is important to keep this in mind for future reference.

Lastly, ACCUPLACER tests were not completed by all individuals involved in this study. This was particularly problematic for one subject area. The subject area of College Level Math did not have sufficient data and therefore limited the inferences that could be made while using this value.

Future Implications

This report is not to be viewed as a comprehensive study. Due to the novelty of this project and the limitations that were experienced, this report is to serve as the basis for follow-ups. The most important information obtained throughout this project was what processes worked and what processes failed. Follow-up analyses will be done with greater ease due to the time and effort invested in this project. It is likely that future analyses will reveal more meaningful relationships that can serve as evidence to promote change. Understanding how the limitations can affect this project and applying that knowledge will result in more thorough research projects.

Appendix

Note: The graphs included in this report refer to students who passed through Stearns-Benton Employment & Training Council as “Workforce Center Only” and those who passed through Stearns-Benton Employment & Training Council and St Cloud Technical and Community College as “Workforce Center Students”.

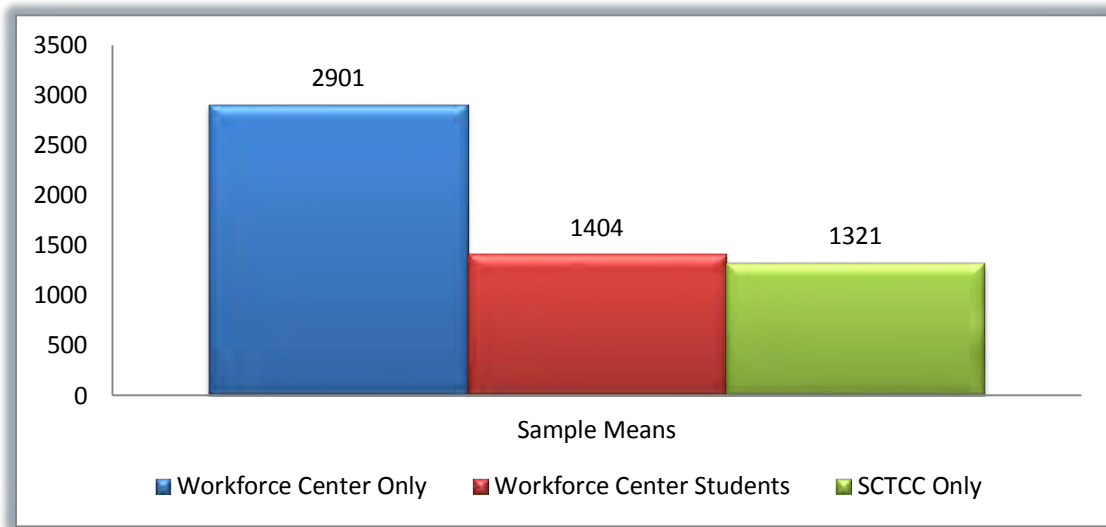


Figure 1: Sample Means

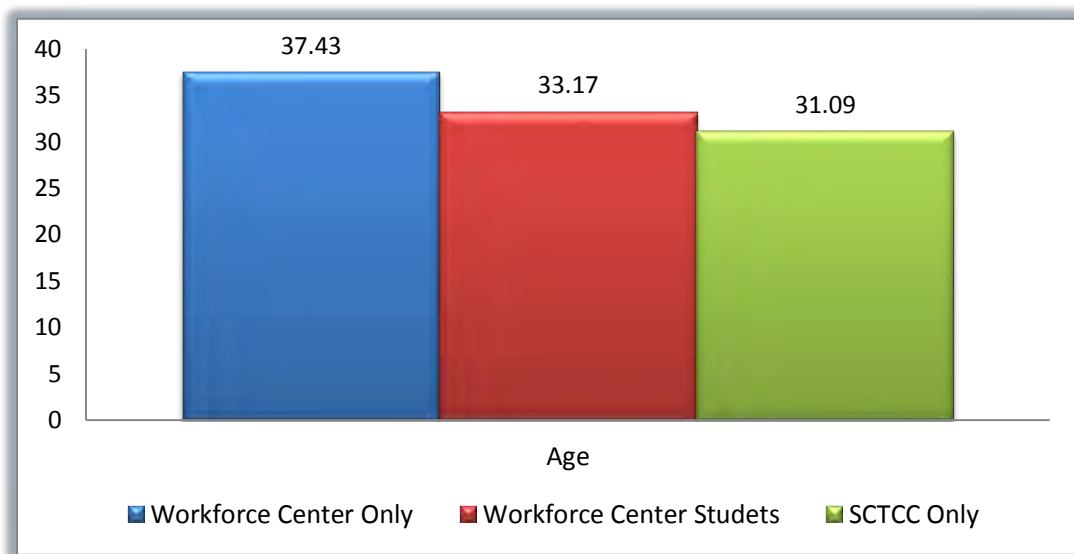


Figure 2: Age

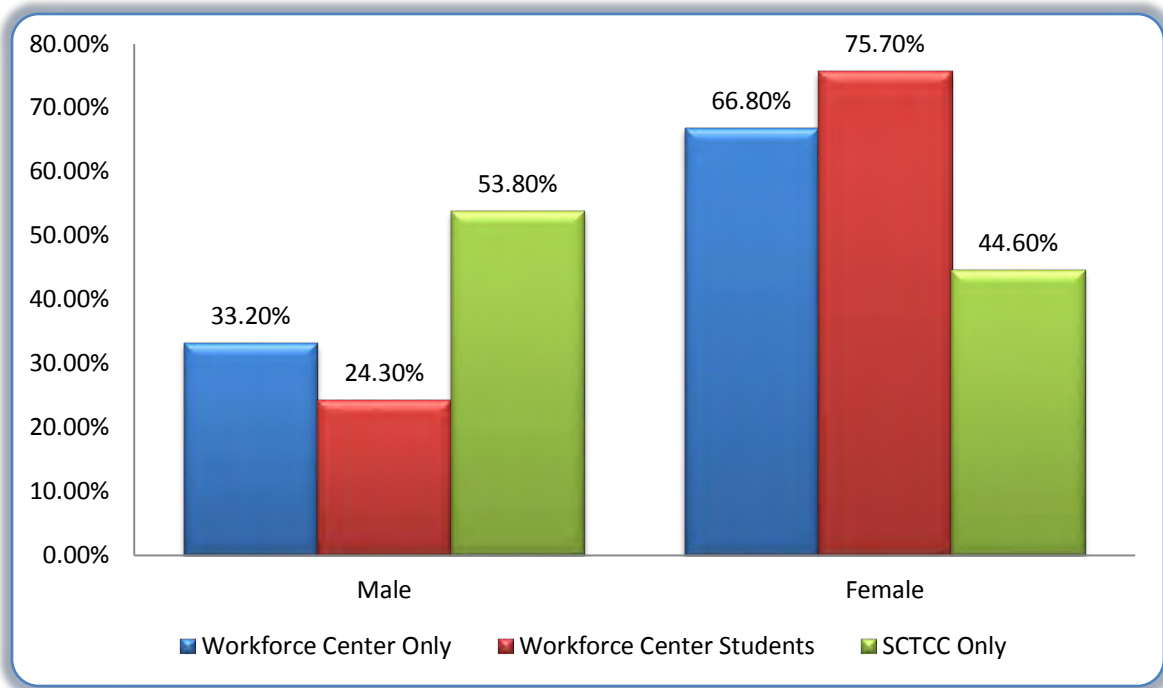


Figure 3: Gender

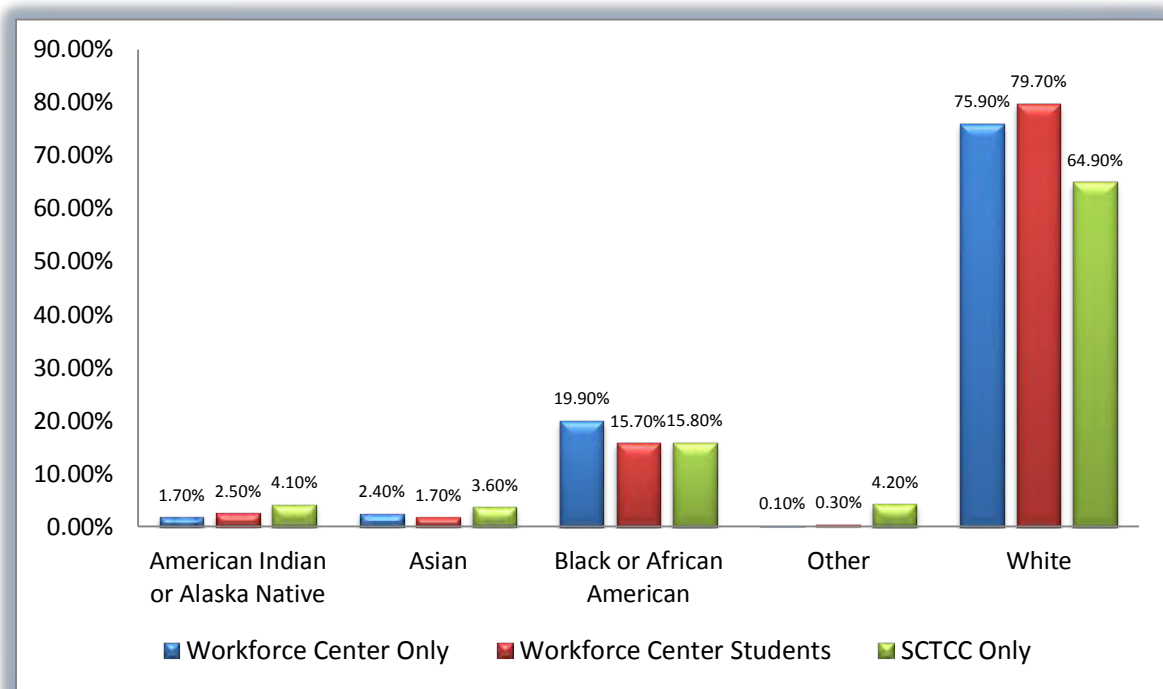


Figure 4: Race

Most Recent Major (1 of 2)

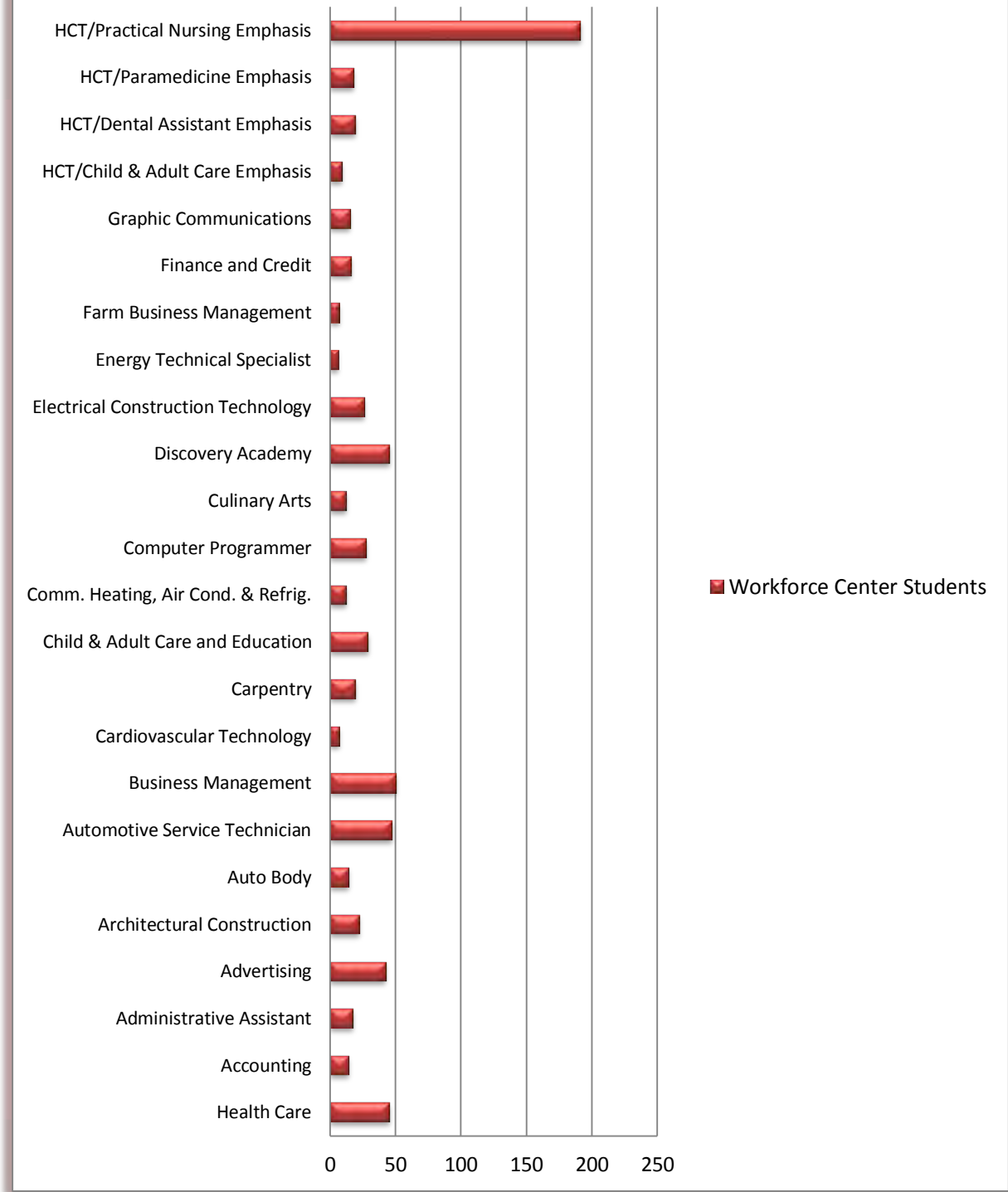


Figure 5: Most Recent Major One-Workforce Center Students

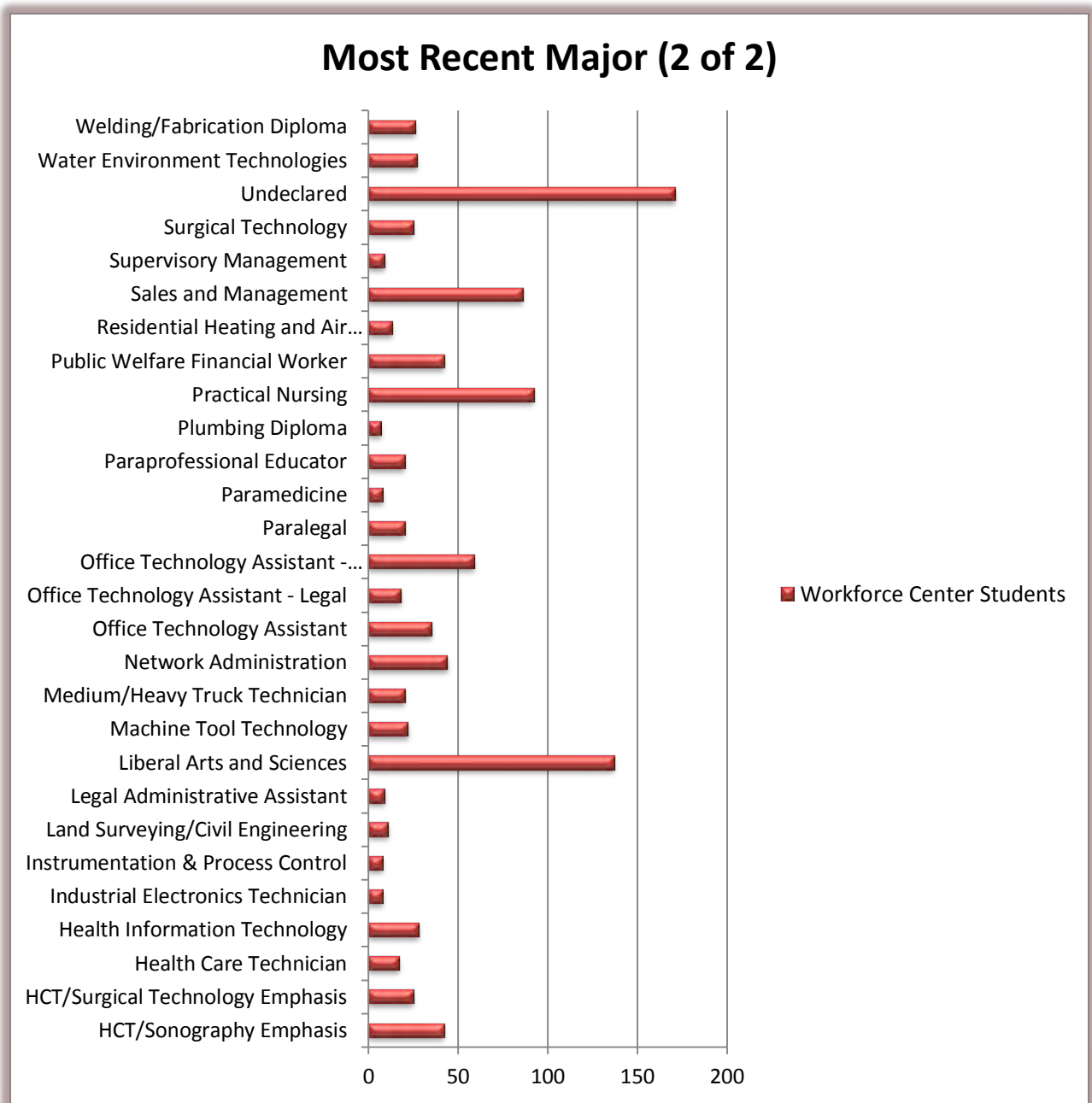


Figure 6: Most Recent Major Two-Workforce Center Students

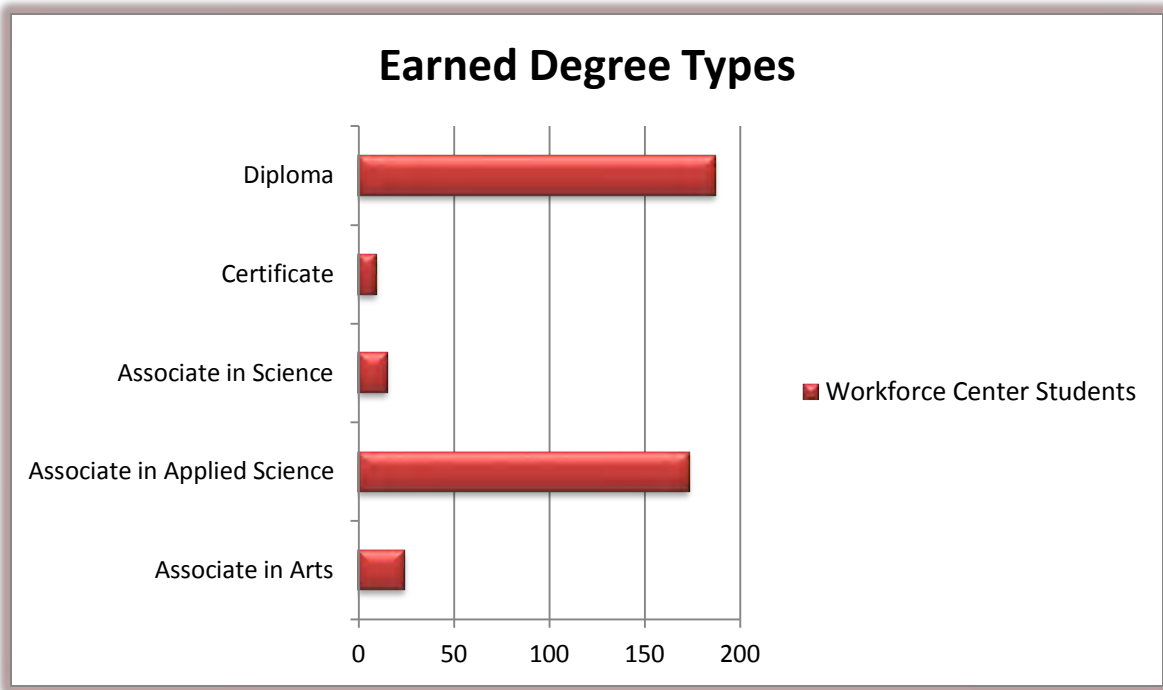


Figure 7: Earned Degree Type-Workforce Center Students

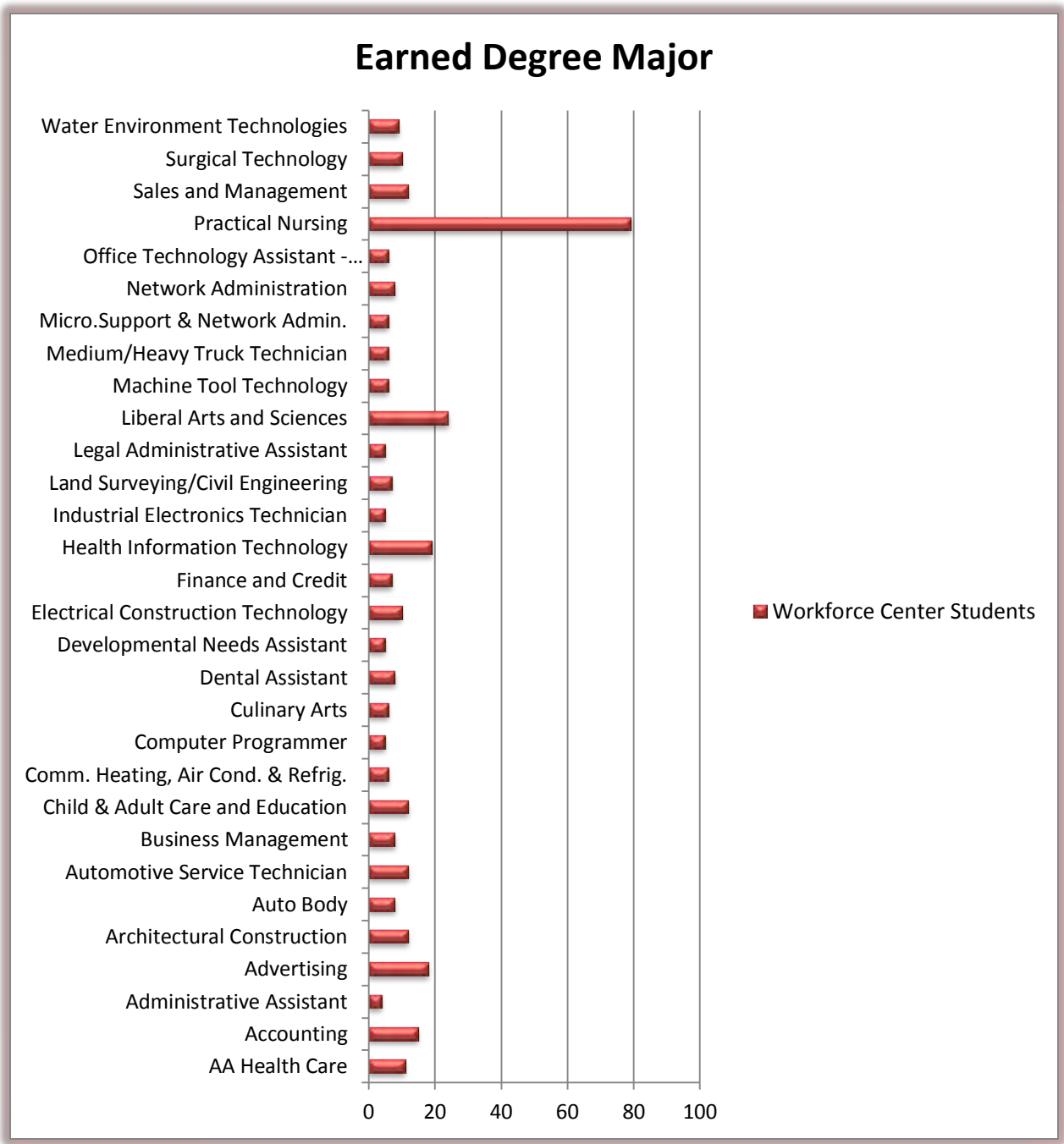


Figure 8: Earned Degree Major-Workforce Center Students

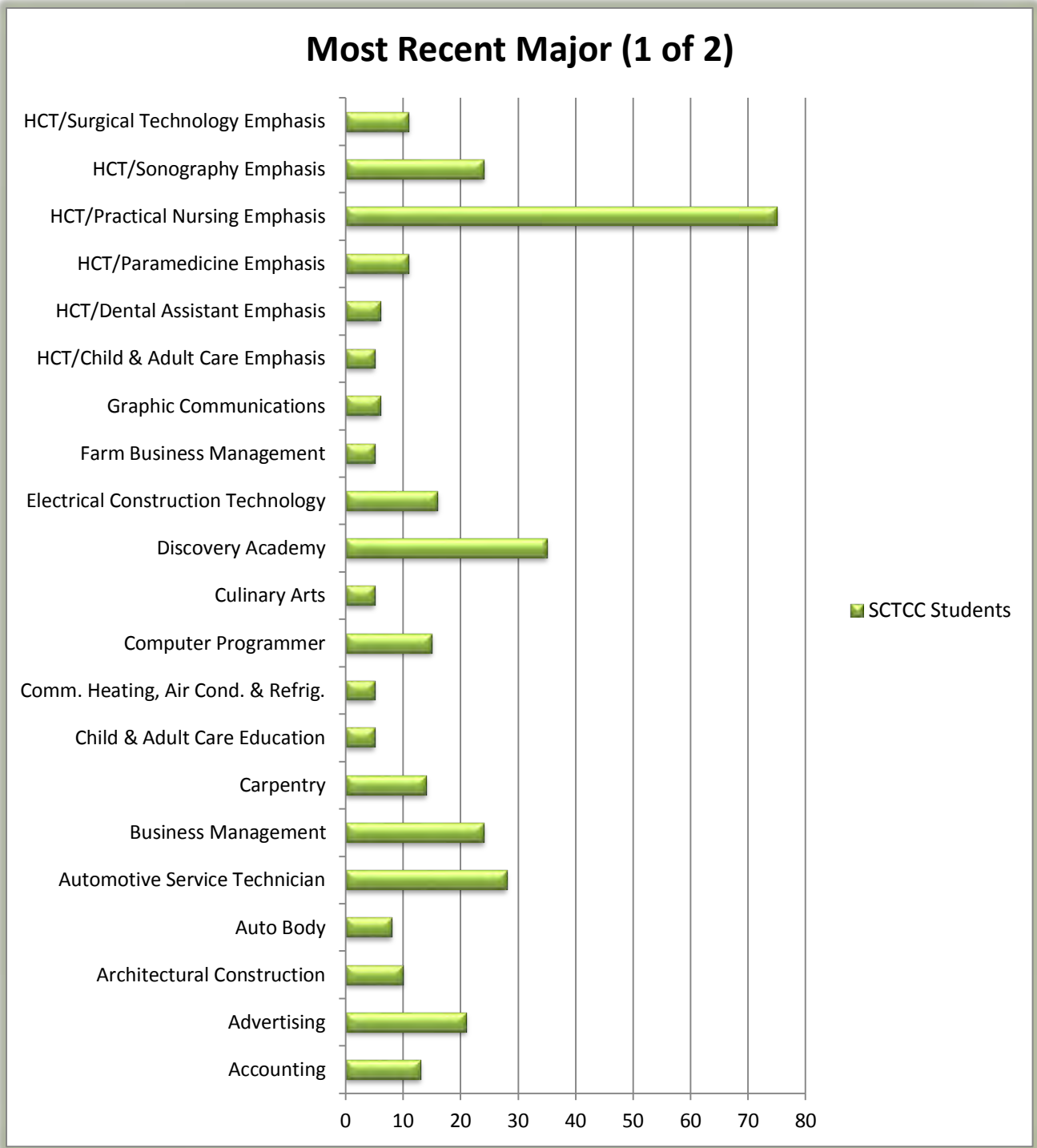


Figure 9: Most Recent Major One-SCTCC Students

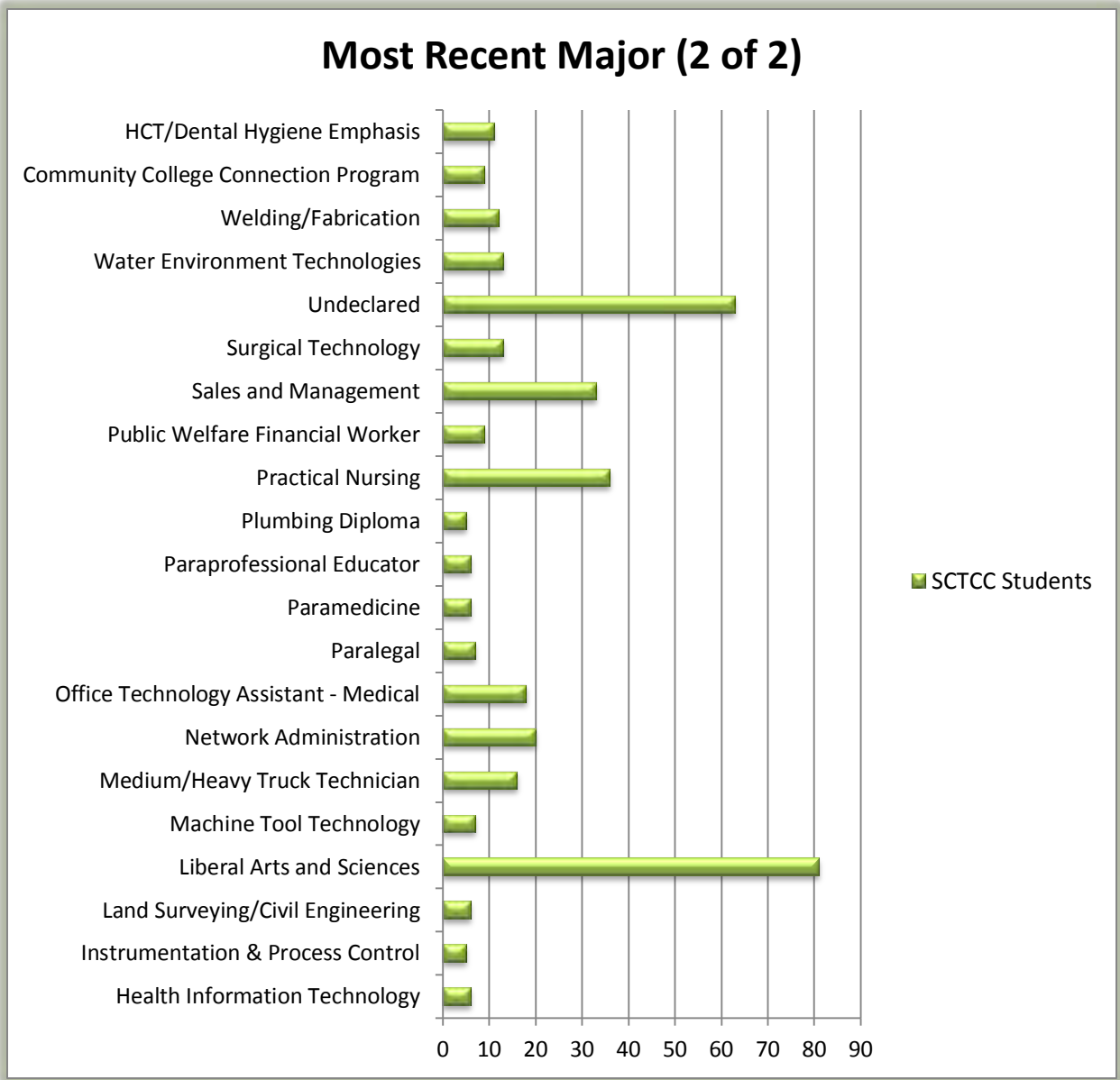


Figure 19: Most Recent Major Two-SCTCC Students

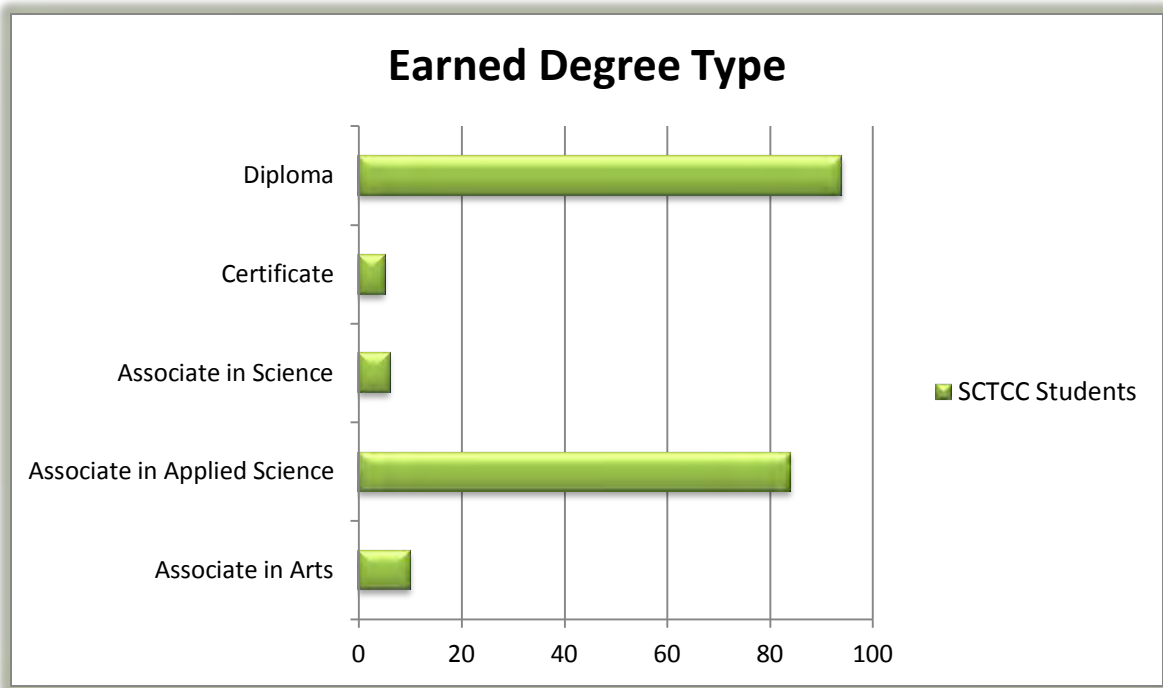


Figure 11: Earned Degree Type-SCTCC Students

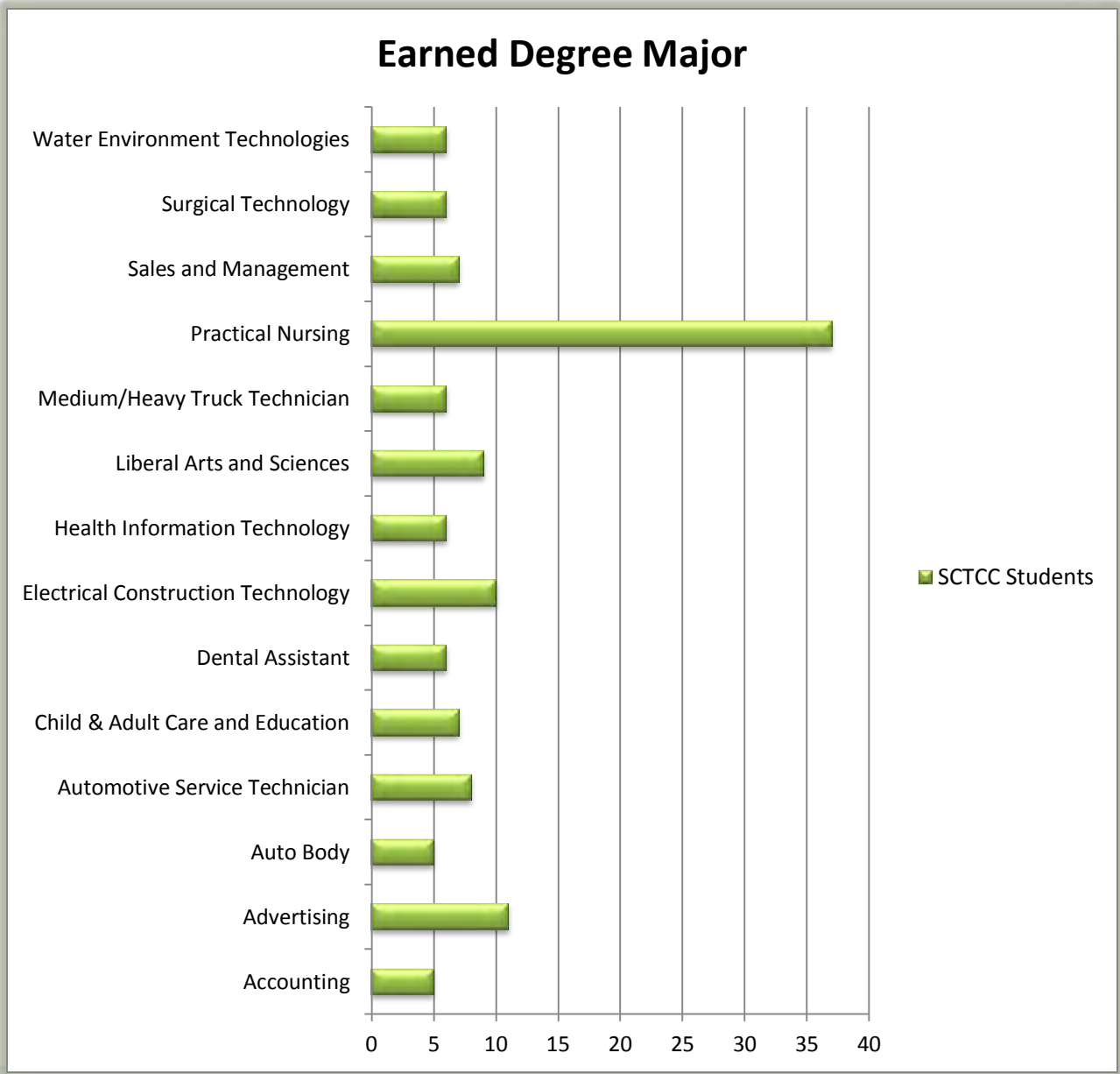


Figure 12: Earned Degree Major-SCTCC Students

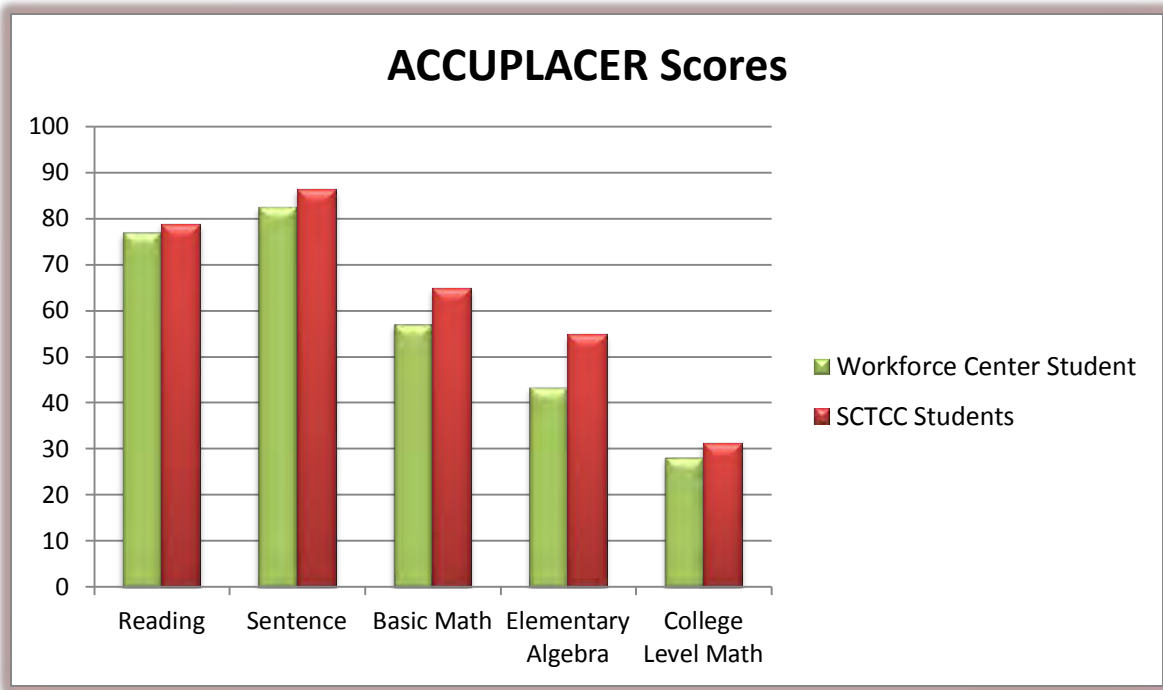


Figure 13: ACCUPLACER Scores

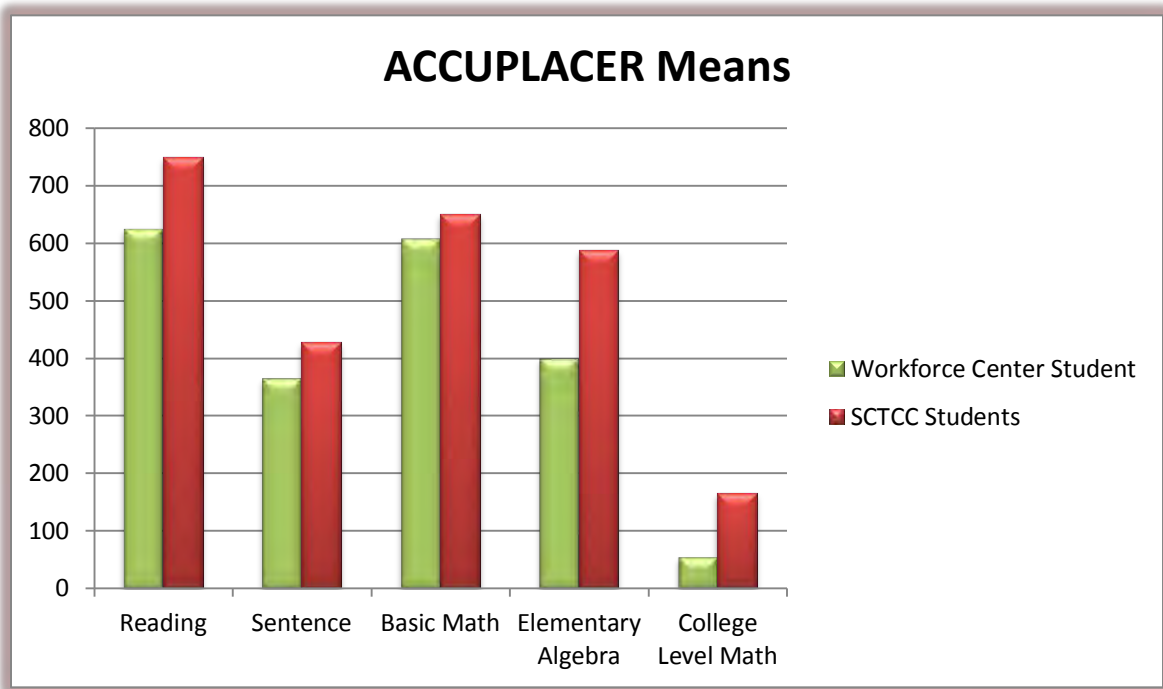


Figure 14: ACCUPLACER Means