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ABSTRACT

A study was undertaken to determine differences among personal, situational, and outcome characteristics of students in Pennsylvania community colleges and two-year proprietary institutions and the nature of and differences in gender in both types of institutions. Phase 2 of three involved surveying a sample of students currently enrolled in postsecondary programs. A 35-item questionnaire was designed and mailed to 3,100 students--1,500 in community colleges and 1,600 in proprietary institutions. Data were collected on 1,047 respondents. The Loglinear and two-way ANOVA (analysis of variance) were used to analyze the data. Findings indicated that, in terms of ethnicity, postsecondary technical programs in community colleges and two-year institutions were overwhelmingly enrolled with white students (over 90 percent). Significant difference existed between age of female versus age of male respondents in community colleges; no difference was found between gender and ages of technical education respondents in the two-year proprietary institutions. Most respondents in both institutions were single; the percentage of divorced female respondents was double that of their male counterparts in both institutions. Female respondents in both institutions had higher grade point averages and worked fewer hours than male respondents. (Contains 30 references.) (YLB)

A BENCHMARK REVIEW OF POSTSECONDARY TECHNICAL STUDENTS IN PENNSYLVANIA

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Running Head: Postsecondary Technical Students

A Benchmark Review of Postsecondary Technical Students in Pennsylvania

Introduction

American business and industry need a highly skilled workforce in order to compete in a global economy and community colleges and other two-year postsecondary institutions are in the best position to fulfill that need (McCabe, 1997). A policy paper by the American Association for Community Colleges (AACC), *Workforce Training Imperative: Meeting the Training Needs of the Nation*, offered a well-formed argument for assigning the community college a central role in any effort to expand workforce retraining (Pedersen, 1993). Moreover, President Bill Clinton articulated the importance of community colleges for all Americans in his speech at Gulf Coast Community College in Panama City, Florida. The President stated: "I believe America ought to work the way the community colleges in America work. I believe they are the ultimate democratic institution, small "d"; open to everybody, where everybody has a chance; results-oriented; flexible, not bureaucratic; working in partnership with the private sector; guaranteeing opportunity for everybody who is responsible enough to seek it" (Clinton, 1996). The President's endorsement increases our credibility and in the coming decades, community colleges will find themselves ideally positioned to prepare students with academic and technical skills for entry-level employment in the global workplace (Farmer & Fredrickson, 1999; Farmer & Key, 1997). Other scholars have also indicated that community colleges are in the best position to prepare students and should be considered central to innovation in preparing the workforce (Grubb, 1996; Bragg, 1998; and Giddens & Stasz, 1999). However, many American youth still strive for the baccalaureate degree, and others are either unaware of options for technical or paraprofessional career positions or assume that no education beyond high school is necessary for meaningful work and economic independence.

During the new millennium, we know that gender will be an issue in the workplace because the percentage of women has increased substantially in both the private sector and state and local government, whereas the participation rate of men has declined (Henderson, 1994). We also know that many highly skilled technical positions do not require a 4-year college degree, but they do require more than a high school education. In fact, according to Gray & Herr (1995), 65% of jobs by the year 2000 will require some training beyond high school but not a 4-year college degree. However, in spite of the statistics, the sad reality still exists in America that most youth and their parents place more value on a 4-year liberal arts career than a technical educational career.

Employers are seeking intelligent employees who can master the technical demands of their jobs, work without constant supervision, adapt to new technologies, teach themselves how to use sophisticated equipment, and have the right attitudes and dispositions toward work (Giddens & Stasz, 1999). Moreover, teacher-educators should partner more with employers to find ways to provide postsecondary technical students with a basis in, and an awareness of, the types of skills employees will need, from academic and technical to generic workplace competencies.

The mission of community colleges is conceptually distinct from two-year proprietary institutions. By law, community colleges provide two-year associate degree programs, "university-parallel" lower division courses and programs for students beginning their baccalaureate degree careers, non-credit continuing education opportunities for adults, vocational and occupational education, programs for those not yet ready to do college-level work, remedial courses and programs for those who need additional assistance in such areas as reading, mathematics and basic skills, and certificate and special programs for non-traditional students (Myers, 1997). Community colleges are governed by an elected or publicly appointed board of trustees and funded equally, using the one-third formula, by local sponsors (participating school districts), by state government, and by student tuition. On the other hand, proprietary institutions are for profit and their survival is based on enrollment and the amount of funds generated. Moreover, proprietary institutions hire, retain, and promote the faculty on their demonstrated ability to teach and emphasize job placement (Grubb, 1992; Belitsky, 1969).

Given the situation, there is a need in Pennsylvania to provide legislators and educational leaders with appropriate information to make intelligent decisions on the management of postsecondary technical education. Therefore, the purposes of this study were to determine the differences among the personal, situational, and outcome characteristics of students in Pennsylvania community colleges and two-year proprietary institutions; and the nature of and the differences in gender in both types of institutions. The study, under the auspices of the Pennsylvania Department of Education-Bureau of Vocational Technical Education, was divided into three phases: Planning and Organization, Implementation, and Follow-up. This paper describes results of the second phase which involved surveying a large sample of students currently enrolled in postsecondary programs in Pennsylvania.

Objectives

Two research questions were used to guide this phase of the study: (a) What are the gender differences between postsecondary technical students in community colleges and those in two-year proprietary institutions in Pennsylvania on selected personal, situational, and outcome characteristics? (b) Is there a relationship among gender and type of postsecondary technical students in community colleges and two-year proprietary institutions in Pennsylvania on selected personal, situational, and outcome characteristics?

Conceptual Framework

If educational research is to be meaningful and relevant, according to Rojewski (1999), it should be grounded in theory, thoughtful conceptual arguments, and precise descriptions of problems, past inquiry, and constructs found in the research literature. With that thought in mind, the concept of benchmarking, as discussed by Tucker (1995), was the framework used to guide this study. The benchmarking concept was selected because of its usefulness in monitoring and diagnosis (Farmer & Taylor, 1997). Moreover, it provides a baseline from which the effectiveness of new programs can be evaluated. Thus, benchmarking could have a significant impact on one very important aspect of post-

secondary technical and occupational education—the nature of the performance of students and how their performances are measured. The benchmarking process, when conducted collaboratively by a broad range of local practitioners, can generate a shared in-depth understanding of post-secondary technical students and practices by identifying specific objectives, strengths, and weaknesses (Ellibee & Mason, 1997). Benchmarking may also be defined as learning from others by identifying best practices, studying them and improving your program or organization based on what you have learned (Farmer & Taylor, 1998; and Boxwell, 1994). Benchmarking has another, more immediate effect. It can point to specific activities and processes that can be implemented to materially reduce cost and increase quality. Benchmarking studies have been used to bring these benefits to all aspects of organizational activity in higher education (Copa & Ammentorp, 1998; Coate, 1990). Ultimately, benchmarking aims to focus on the specific areas needing improvement. Moreover, completing the benchmarking process will reward community colleges and two-year private institutions with a better understanding of their students in post-secondary technical programs. A more complete discussion on benchmarking can be located on the internet, (www.epfl.ch/bench/bench.FAQ.html).

Method

Procedure and Research Design

In this phase of the study, a survey research design was employed. This method was appropriate because it allowed both factual and perceptual, or attitudinal, data to be gathered from a sample of a population of postsecondary technical education students (Fowler, 1993; Henerson, Morris, & Fitz-Gibbon, 1987). Moreover, other scholars and researchers consider the survey method appropriate for systematic data collection (Gall, Borg and Gall, 1996; Ary, Jacobs, and Razavieh, 1996).

A 35-item questionnaire, divided into five domains, was designed and field-tested with a small sample (n=24) of post-secondary technical students at a two-year private institution in central Pennsylvania. The five domains comprising the questionnaire were: (a) demographic, (b) personal circumstances, (c) personal goals/aspirations, (d) institutional participation, and (e) perception of/satisfaction with current institution. Prior to conducting the pilot study, a steering committee served as subject matter experts (SMEs) to critique the questionnaire for content validity. A focus group was also used at the end of the pilot study to discuss participants' problems or concerns regarding the questionnaire. Afterward, the revised questionnaire was administered to a sample of 3,100 postsecondary technical students in Pennsylvania. Specifically, 1,500 questionnaires were mailed to community colleges (100 x15) and 1,600 to randomly selected proprietary institutions (100 x 16).

Data were collected on 1,047 respondents which represented 34% of approximately 3,100 students sampled in 15 community colleges and 16 post-secondary proprietary schools in Pennsylvania in the spring of 1998. Questionnaires were mailed to the Deans of Occupational and Technical Education at each institution with instructions for administering them to their current students who were pursuing an associate degree in a technical education program. The questionnaires were returned to the project director at Penn State University. The questionnaires were optically scanned by instructional services

at Penn State, and a preliminary data file was created. The data were additionally refined to eliminate questionable responses and converted to an SPSS file for analysis. Both descriptive and inferential statistics were calculated.

Variables

The major independent and dependent variables were identified and coded to analyze the specific population. The respondents in community colleges were coded as (1) and those in two-year proprietary institutions were coded as (2). The independent variables were defined by marital status, military veteran status, age, race/ethnic background, and gender. On the other hand, the dependent variables in this study included the respondent's status regarding personal circumstances, personal goals/aspirations, institutional participation, and satisfaction with current institution.

Data Analysis

The Loglinear model and two-way ANOVA were used to analyze the data. The Loglinear model is a technique used in analyzing categorical data because it describes association patterns among categorical variables (Agresti, 1990). The two-way ANOVA was used to examine institution type, gender and interaction between institution type and gender for the independent variables measured on an interval or ratio scale.

Results

Much of the data from the respondents was converted to tables. However, in some instances, it was appropriate to report the data in a narrative format. As shown in Table 1, the sample of males in community colleges was 489 (70%), which is rather high compared to the low number of males (137or 43.2%) in the proprietary institutions. On the other hand, in the proprietary institutions a higher percentage of females (56.8%) exist in the postsecondary technical education programs. The results show that more males than females are enrolled in community colleges, versus those enrolled in proprietary institutions in Pennsylvania. However, according to the American Association of Community Colleges database, there are more females (58%) than males (42%) enrolled in the 1,132 community colleges in the United States.

In terms of race/ethnic background, there was no significant difference between institution types and gender as shown in Table 2. However, the data revealed that the vast majority of the respondents were white males, which may raise issues concerning cultural diversity. Only gender had a significant relationship with age; the average mean age for male students was 25.1, which was younger than the female students average mean age of 27.6 as shown in Table 3. However, on the national level, the average age of community college students is 29, which indicates that the respondents were younger than the national average. The ages of the respondents confirms the educational trend that almost half of all college students are over the age of 24, which is up 30% from figures in the 1970's (Adult Learning in America, 1996). In terms of marital status, the data showed a difference between genders, but not between institution types. Table 4 shows that there were more single male students (79.3%) in community colleges compared to the female students (58.2%). Also, the data revealed that there were more married female students (24.9%)

than male students (14.4%) in community colleges. In two-year proprietary institutions, there were more single male students (72.3%) than single female students (64.2%).

TABLE 1.
Gender Breakdown of Respondents in the PPTSS*

Institution Type	N	%
Community Colleges		
Male	489	69.5
Female	215	30.5
Total	**704**	**100**
Two-year Proprietary Institutions		
Male	137	43.2
Female	180	56.8
Total	**317**	**100**

*Note: N=1,021 *PPTSS= Pennsylvania Postsecondary Technical Student Survey*

The percentage of married male students in proprietary institutions was 21.9% and about the same percentage for married female students (21.8%) as shown in Table 4. The data in Table 4 also show that the vast majority of postsecondary technical students in community colleges (72.9%) as well as proprietary institutions (67.7%) were single regardless of their gender. It may be interesting to note that the percentages of divorced female respondents were twice as many as the male students in both institutions. As shown in Table 4, 10.3% of female respondents were divorced compared to 5.3% for their male counterparts. In the two-year proprietary institutions, 8.9% of female respondents were divorced compared to 4.4% for the male respondents. The remaining data revealed small percentages of separated and widowed postsecondary technical students. The small percentages for the remaining two categories were about the same in both institutions.

TABLE 2
Gender and Ethnic Background of the Respondents in the PPTSS* (N=990)

Institution Type	Male N	Male %	Female N	Female %	Total N	Total %
Community Colleges						
American Indian/Alaskan Native	5	1.1	1	0.5	6	0.9
Asian & Pacific American	6	1.3	4	1.9	10	1.5
African/Black American	11	2.3	3	1.4	14	2.1
Latino/Hispanic American	6	1.3	7	3.3	13	1.9
White American	437	92.6	191	91%	628	92.1
Foreign (Non-Immigrants)	7	1.5	4	1.9	11	1.6
Total	**472**	**100**	**210**	**100**	**682**	**100**
Two-year Proprietary Institutions						
American Indian/Alaskan Native	1	0.8	1	0.6	2	0.6
Asian & Pacific American	4	3	1	0.6	5	1.6
African/Black American	5	3.8	4	2.3	9	2.9
Latino/Hispanic American	6	4.5	6	3.4	12	3.9
White American	115	87.1	163	92.6	278	90.3
Foreign (Non-Immigrants)	1	0.8	1	0.6	2	0.6
Total	**132**	**100**	**176**	**100**	**308**	**100**

TABLE 3
Average Age of Respondents in the PPTSS*

Institution Type	Age M	SD
Community Colleges		
Male	25.13	0.40
Female	27.61	0.61
Two-year Proprietary Institutions		
Male	25.09	0.75
Female	25.88	0.66

*Note: N=1,010 *PPTSS= Pennsylvania Postsecondary Technical Student Survey*

In Table 5, the results revealed the difference in military status of respondents between gender. However, there is a relationship between institution type and gender. The percentage of male military veterans was higher in two-year proprietary institutions (19.9%) than in community colleges (10.4%) as shown in Table 5. Although the numbers were very small, as shown in Table 5, it may be interesting to note that the percentage of female veterans (2.8%) in proprietary institutions was three times higher than the percentage of female veterans (0.9%) in community colleges.

High school grade-point average (GPA) was considered a nominal variable because two responses—"completed GED" and "do not know" – were difficult to compare with others in magnitude. By using the Loglinear model, high school GPA differed for different genders. Female students had better high school GPAs than their male counterparts as shown in Table 6. In the community colleges, 18.4% of the female respondents had an "A" grade-point average (GPA) compared to 8.6% for male students. In the proprietary institutions, the results were similar, 14.2% of the female respondents had an "A" GPA compared to 7.2% for their male counterparts.

On current sources of financial aid, about one-half of the students had exactly one source of financial aid, one-fourth had two sources, about 15% of students did not have any financial aid, and about 9% had three major sources of financial aid. To summarize, most students received educational loans and Pell grants as their sources of financial aid.

The proportion of JTPA recipients were different for different institution types, but not for gender. There were more JTPA recipients in private two-year proprietary institutions than in community colleges. Table 7 shows the number of hours per week that respondents were currently working, and there was a significant effect for both institution type and gender. The data revealed that community college respondents worked longer—an average of 22 hours a week—than the respondents in two-year proprietary institutions, who worked an average of 17 hours. Also, male respondents worked about 22 hours per week and female respondents on an average worked 17 hours per week. It may be interesting to note that students who work longer than 20 hours per week may be at higher risk for failure, according to an article in the *Harvard Education Letter* (Kelly, 1998).

Table 8 refers to the current total household (yourself and others) weekly income before taxes. There was a significant difference between institution type and gender on current total weekly household income before taxes. Community college students had higher household incomes ($1,063) than did their counterparts in two-year proprietary institutions ($768). This finding is reinforced by Grubb's (1992) work on *Postsecondary vocational education and the sub-baccalaureate labor market: New evidence on economic returns*. According to Grubb, vocational Associate degrees from community colleges increase annual earnings, but those from technical institutes and private vocational schools tend to depress earnings, as shown in Table 8. In both types of institutions, female respondents' weekly earnings were considerably less (about $300) than their male counterparts.

TABLE 4
Marital Status of the Respondents in the PPTSS* *N=1,016*

Institution Type	Male N	Male %	Female N	Female %	Total N	Total %
Community Colleges						
Single, never married	386	79.3	124	58.2	510	72.9
Married, not separated	70	14.4	53	24.9	123	17.6
Separated	1	0.2	11	5.2	12	1.7
Divorced	26	5.3	22	10.3	48	6.9
Widowed	4	0.8	3	1.4	7	1
Total	**487**	**100**	**213**	**100**	**700**	**100**
Two-year Proprietary Institutions						
Single, never married	99	72.3	115	64.2	214	67.7
Married, not separated	30	21.9	39	21.8	69	21.8
Separated	1	0.7	6	3.4	7	2.2
Divorced	6	4.4	16	8.9	22	7
Widowed	1	0.7	3	1.7	4	1.3
Total	**137**	**100**	**179**	**100**	**316**	**100**

TABLE 5
Military Status of the Respondents in the PPTSS* *Note: N=1,013*

Institution Type	Veteran N	Veteran %	Non-veteran N	Non-veteran %	Total N	Total %
Community Colleges						
Male	50	10.4	433	89.6	483	100
Female	2	0.9	213	99.1	215	100
Total	52	7.4	646	92.6	698	100
Two-year Proprietary Inst.						
Male	27	19.9	109	80.1	136	100
Female	5	2.8	174	97.2	179	100
Total	**32**	**10.2**	**283**	**89.8**	**315**	**100**

TABLE 6
High School GPA of the Respondents in the PPTSS*

Institution Type	Male N	Male %	Female N	Female %	Total N	Total %
Community Colleges						
A	42	8.6	39	18.4	81	11.6
B	229	47	111	52.4	340	48.6
C	164	33.7	43	20.3	207	29.6
Below C	18	3.7	1	0.5	19	2.7
Completed GED	11	2.3	8	3.8	19	2.7
Do not know	23	4.7	10	4.7	33	4.7
Total	**487**	**100**	**212**	**100**	**699**	**100**
Two-year Proprietary Inst.						
A	10	7.4	25	14.2	35	11.2
B	62	45.6	99	56.3	161	51.6
C	53	39	37	21	90	28.8
Below C	2	1.5	3	1.7	5	1.6
Completed GED	2	1.5	8	4.5	10	3.2
Do not know	7	5.1	4	2.3	11	3.5
Total	**136**	**100**	**176**	**100**	**312**	**100**

Note: N=1,011

In Table 9, the proportion of Pell grant recipients differed for different institution types and gender. The percentage of two-year proprietary institution students (39.7%) who had Pell grants was higher than that for community college students (25.6%). Moreover in the community colleges, the percentage of female students (35.8%) having Pell grants was higher than that for male students (21.1%), while in two-year proprietary institutions the proportion of male students (42.3%) having Pell grants was higher than for female students (37.8%).

TABLE 7
***Means and Standard deviation of Number of Hours Per Week currently Working** N=1,002*

Institution Type and Gender	N	M	SD
Community Colleges	693		
Male		25.24	0.74
Female		19.23	1.12
Total		**22.24**	**0.67**
Two-year Proprietary Inst.	**309**		
Male		18.27	1.40
Female		14.91	1.22
Total		**16.60**	**0.93**

TABLE 8
***Means and Standard deviation for Current Total Household Weekly Income Before Taxes** N=723*

Institution Type and Gender	N	M	SD
Community Colleges	499		
Male		1219.32	79.10
Female		906.24	111.53
Total		**1062.78**	**68.37**
Two-year Proprietary Inst.	224		
Male		899.24	140.66
Female		629.32	132.12
Total		**764.28**	**96.49**

In Table 10, the proportion of educational loan recipients was significantly different for institution types, but not for gender. More postsecondary technical and occupational education students in community colleges received educational loans than students in two-year proprietary institutions. Nationally, about 33% of all students attending community colleges received some type of financial aid according to the American Association of Community Colleges (AACC) national database. On the other hand, students in proprietary institutions receive about 25% of their financial aid from the federal government even though they enroll only 5.4% of postsecondary students and 7.7% of low-income students (Grubb, 1992).

TABLE 9
Respondents Who Received Pell Grant Loans in the PPTSS*

Institution Type	No		Yes		Total	
	N	%	N	%	N	%
Community Colleges						
Male	386	78.9	103	21.1	489	100
Female	138	64.2	77	35.8	215	100
Total	**524**	**74.4**	**180**	**25.6**	**704**	**100**
Two-year Proprietary Inst.						
Male	79	57.7	58	42.3	137	100
Female	112	62.2	68	37.8	180	100
Total	**191**	**60.3**	**126**	**39.7**	**317**	**100**

Note: N=1,021

It may be of interest to note the percentage of respondents by institution type and gender who relocated to attend school. Although there was no significant difference by institution type or gender, the data revealed that the vast majority of community college respondents (63.2%) attended the institution in their home county and about 51% of proprietary respondents also attended a local institution. This finding may suggest that students value the proximity of postsecondary institutions in their respective communities. However, according to the Pennsylvania State Data Center more young people, ages 20-29, are leaving the Commonwealth than staying. Overall, Pennsylvania had a 1995 to 1997 net migration loss of approximately –15,000 persons with occupational skills that are critical for high technology and national competitive industry and businesses (De Jong & Klein, 1999).

On the question of students' primary educational goal, the analysis revealed that the distribution of primary educational goals differed for different institution types and genders, respectively. As displayed in Table 11, most respondents indicated that their primary goal was to prepare for a first job/career. However, many of respondents, in both institutions, were exploring a new academic/career area as their primary goal for attending their respective schools. The data shows that slightly more than 20% of the respondents attending community colleges and two-year proprietary institutions were still uncertain about their career occupations. The uncertainty of the respondents in their exploration of new academic/career areas as the primary educational goal for attending their respective institution makes a strong case for career guidance for adult learners. The findings are consistent with Cohen & Brawer (1989) work that point out that two-year institutions have historically reached out to attract adult learners who had inadequate preparation in the

lower schools; whose educational progress had been interrupted by some temporary condition, and so on.

TABLE 10
Respondents Who Received Educational Loans in the PPTSS* *(N=1,021)*

Institution Type	No		Yes		Total	
	N	%	N	%	N	%
Community Colleges						
Male	321	65.6	168	34.4	489	100
Female	142	66	73	34	215	100
Total	463	65.8	241	34.2	704	100
Two-year Proprietary Inst.						
Male	51	37.2	86	62.8	137	100
Female	76	42.2	104	57.8	180	100
Total	**127**	**40.1**	**190**	**59.9**	**317**	**100**

TABLE 11
Primary Educational Goal of Respondents by Institutional Type and gender in the PPTSS *(N=991)*

Institution Type	Male		Female		Total	
	N	%	N	%	N	%
Community Colleges						
Prepare for first job	192	40.4	83	39.5	275	40.1
Explore new areas	81	17.1	57	27.1	138	20.1
Improve skill for current job	69	14.5	19	9	88	12.8
Transfer to 4-year college	97	20.4	35	16.7	132	19.3
Personal Interest	9	1.9	5	2.4	14	2
Cope with major change in life	22	4.6	10	4.8	32	4.7
Improve basic skills	5	1.1	1	0.5	6	0.9
Total	**475**	**100**	**210**	**100**	**685**	**100**

Two-year Proprietary Inst.						
Prepare for first job	78	59.5	99	56.6	177	57.8
Explore new areas	26	19.8	54	30.9	80	26.1
Improve skill for current job	6	4.6	10	5.7	16	5.2
Transfer to 4-year college	5	3.8	7	4	12	3.9
Personal Interest	6	4.6			6	2
Cope with major change in life	10	7.6	5	2.9	15	4.9
Total	**134**	**100**	**175**	**100**	**306**	**100**

Highlights of Findings

- In terms of ethnicity, postsecondary technical programs in community colleges and two-year institutions in Pennsylvania are overwhelmingly enrolled with white students with 92.1 % and 90.3% respectively. The minority students enrolled in postsecondary technical programs was disproportion ally low (0.9 American Indian, 1.5 Asian & Pacific American, 2.1 African American, 1.9 Latino/Hispanic) in comparison with national data that clearly shows a need for research in cultural diversity that reflects the dynamics of the workplace during the new millennium. The national enrollment for students in the same ethnic groups were: 0.7%, 3.7%, 11.6%, and 11.6% respectively.

- Significant difference existed between the age of female (M=27.6) versus male (M=25.1) respondents in community colleges. However, there was no difference between gender and ages of technical education respondents in the two-year proprietary institutions.

- Although most of the respondents in both institutions were single (72.9% in community colleges and 67.7% in two-year proprietary institutions), the percentage of divorced female respondents doubled that of their male counterparts in both institutions. In community colleges the percentage of divorced female respondents was 10.3% versus 5.3% for their male counterparts. The results were basically the same for respondents in two-year proprietary institutions, 8.9% of the female respondents were divorced compared to 4.4% for the male respondents. This dilemma may be an issue for mid-life respondents approaching career changes in postsecondary education institutions.

- On average, the percentage of female respondents in both institutions had higher grade-point averages than their male counterparts. In the community colleges, 18.4% of the female respondents had an "A" grade-point average (GPA) compared to 8.6% for male students. In the proprietary institutions, the results were similar,

14.2% of the female respondents had an "A" GPA compared to 7.2% for their male counterparts.

- In terms of the number of hours currently working per week, female respondents in both institutions worked less hours than their male counterpart. On average, female respondents in community colleges worked 19.2 hours per week while the male respondents worked 25.2 hours during the same time period. It is possible that female respondents in proprietary institutions also worked less hours (17.1) per week than their male counterparts (21.7). The data showed that female respondents may spend more time studying than their male counterparts, which may explain why female students have higher GPA than male students.

Discussion

During the new millennium, community colleges will experience a rebirth of popularity and notoriety in rekindling their flames in terms of acceptability as providers of quality academic programs for its stakeholders. For the first time in more than four decades community colleges are beginning to receive recognition from policymakers, business leaders, and national heroes as viable postsecondary education institutions for the adult learner. Policymakers are making public statements on the importance and contributions of community colleges regarding the preparation of America's workforce. As President Clinton (1996) stated: "I believe America ought to work the way the community colleges in America work. I believe they are the ultimate democratic institution, small "d"; open to everybody, where everybody has a chance; results-oriented; flexible, not bureaucratic; working in partnership with the private sector; guaranteeing opportunity for everybody who is responsible enough to seek it" Moreover, Senator Lauch Faircloth (of North Carolina) stated that "community colleges are the only job training program I have ever seen the federal government put its money into that works." Furthermore, the CEO of Microsoft, Bill Gates, stated that "community colleges have an important role to play in making certain we have skilled workers ready to help businesses take advantage of all the opportunities in the Digital Age."

Proprietary institutions, on the other hand, have not experienced the hype as much as community colleges, but they have managed to "carve a niche" in providing specialized technical career programs especially those programs in the business, clerical, cosmetology, and office occupations. Proprietary institutions, virtually all of them, are entrepreneurial institutions that measure their success in terms of enrollments (Grubb, 1992). The graduates of proprietary institutions have less earning power than graduates of community colleges. Empirical evidence of the annual earnings of graduates from both types of institutions are recorded in Grubb's (1992) work concerning the effect of postsecondary education by type of institution. Grubb stated that "vocational Associate degrees from community colleges increase annual earnings, but those from technical institutes and private schools tend to depress earnings (though not significantly so)."

Implications

Although the present study is oriented entirely to the needs and idiosyncrasies of the Commonwealth of Pennsylvania, it has national implications for ways in which postsecondary technical education programs in the United States are managed and delivered. Educational leaders and policymakers need baseline data to make decisions regarding the future of educational programs. The results of this study may be used as baseline data since so little of it exists on students in postsecondary technical and occupational education programs.

Comprehensive benchmarking studies in postsecondary technical education are rare and the need for more data, both quantitative and qualitative, cannot be over-emphasized. Clearly, there is a need to be more research on students in postsecondary technical programs especially in the area of cultural diversity-to include gender and ethnicity; enrollment patterns, and factors that influenced minorities in entering or choosing their respective career path.

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