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Women and Black Students in College Automotive Technology

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Abstract

The purpose of this study focused on recruitment and retention of women and blacks in college automotive classrooms. The literature established that little is known about recruitment or retention of women and black automotive learners. However, as of 1995, the number of women certified by Automotive Service Excellence (ASE) has tripled since 1988. In Illinois, black college student enrollments have also increased 58% since 1988, and the trend is expected to continue to 2005 (Jackson, H., 1995). In the recruitment factor of this study, women and black college automotive students identified that their high school teachers and family members were frequently (51.1%) the common source to influence their career choices. In retention issues, respondents credited personal involvement with fellow students and faculty encouragement (66.6%) as important to their successes. The results of the study indicate these issues would be beneficial in recruiting and retaining women and black automotive students.

The news media is trumpeting the sound that the world of work is rapidly changing. New technology has everyone trying to keep current. Automotive employees, like so many other workers, are challenged to perform new types of jobs and adapt to new equipment.

As in the past, college and university educators are busy identifying contemporary job skills, which are then translated into classroom objectives. Some of these skills are included in the areas of computers, electronics, and environmental concerns, to name a few. When it comes to automotive technology majors, activities like these are key to preparing them for acquiring state

of the art skills. Consequently, men, women, and blacks alike are expected to encounter numerous circumstances where short-lived skills must be replaced with new skills to remain technically competent. It is important to observe and utilize factors that improve recruiting and retention in programs where training is offered. These factors might include motivation, self-esteem, family encouragement, peer pressure or anything which can ultimately assist individuals in their attempts to be successful. Much of this information can apply to many different groups of people; however, the focus of this data is on women and blacks.

Purpose of the Study

The purpose of the study was to identify factors that affect the recruitment and retention of women and black students in the automotive technology program at Southern Illinois University, Carbondale. The following research questions guided the study:

1. What has influenced women and black students to choose automotive technology as a career path?
2. What factors helped women and black students to remain in the university to earn a baccalaureate degree?

Review of Literature

Recent transformations in the automotive industry have changed the business of manufacturing, selling, and servicing automobiles, which has ultimately created many new automotive career paths. In the past, a major occupational goal for an associate degree graduate of an automotive technology program was the position of technician in an automotive dealership. Today, in the automotive industry there are other career opportunities dealing with technical service, managerial, technical writing, customer relations, and corporate training that were not available a few years ago. These additional career paths provide excellent opportunities for trained women and black automotive technology graduates.

In direct reference, the National Institute for Automotive Service Excellence (1996) reported the gender gap has narrowed in the automotive industry. The number of women certified by ASE has tripled since 1988. Black enrollment has also increased by 58% from 1988-93 (Jackson, 1995). Realizing these changes in demographics and job markets, educators should expect more women and black students enrolling in two and four-year automotive technology programs.

New Job Descriptions

The reasoning behind changing job descriptions is to keep up with technological dynamics within the automotive field. It is no secret how much the automobile has changed in recent years. From the more efficient engines to the complicated computer systems that control them, the automobile manufacturers are motivated to produce more economical automobiles that also produce less harmful exhaust. We are also seeing more of a global competition than ever before in this automotive arena. There, the knowledge level is increasing at such a fast rate while information that is only a few years old becomes obsolete.

In Illinois, expected workforce skills will increase (Illinois Community College Board, 1995). Of those returning to college for high-skill development, nearly 50% of students enrolled are from displaced jobs seeking degrees and attending classes to acquire new job skills. In response to the changing workforce in Illinois, state universities and community colleges are continually focusing on high skill job training for a modern workforce.

Women and Blacks Wanted in Automotive

It is believed that both women and black employees have precisely the abilities automotive industries need to improve customer satisfaction, sales, and overall performance (Chevrolet Preview, 1990). Currently, federal laws mandate the employment of women and minorities in nontraditional fields such as automotive service.

Diverse enrollments hopefully will enhance the opportunities of all the students to achieve their career goals, fulfill corporate needs, and be satisfied members of society. The urgency to address these needs is increasing rapidly (Person, 1994).

Adjusting Classroom Setting

Adjusting to a college setting may mean providing social opportunities and mentors. Charland (1992) found that career related academic variables, perceived study skills, and support from family and friends were important indicators of psychological adjustment. In addition, strong commitments to the institutions and the amount of psychological distress were important predictors of the students' intentions to continue in college. Differences among traditional students, women, and blacks also suggest different student needs. College programs using counseling services that emphasize career attainment, academic self-efficiency, and family support are likely to become more important as women and black populations increase. Family support and expectations might have more effect than any other influencing factor.

Person (1994) studied the black student culture of a university in the eastern United States. The study revealed that black-oriented student organizations played a critical role in the lives of black students. Respondents felt there should be such organizations on campus, and many were active participants in them. Person also found there should be more institutional support services such as tutoring, counseling, and monitoring of the progress of black students. Another concern for black students entering universities showed strict admission standards limited their entrance and opportunities for success.

Method

In summer 1997, a survey was developed to gather data that examined factors that influence recruitment and retention of women and blacks in college automotive classes. The population for this study was women and black students enrolled in automotive classes within the last five years at Southern Illinois University, Carbondale.

The data collection method involved a questionnaire which was administered by an interview process to protect the privacy of the respondents. The researcher had personal knowledge of the respondents; therefore a third party was not required to identify the respondents as nontraditional. A script was developed to accompany the questionnaire and a colleague from another academic program read the accompanying script and questionnaire to current automotive majors, to prevent any hint of coercion. Graduates and former students were read the script and questionnaire by the researcher and responses were recorded directly onto the questionnaire. The instrument design used a qualitative method to gather data to relate to factors that impact nontraditional student retention. McCannon (1994) described qualitative research as a method that gives researchers the opportunity to experience life from another person's perspective. To make qualitative studies important and credible, researchers must follow a process as demanding as quantitative researchers. Interview questions should not be stated as if-then hypotheses but stated more in the form of wide ranging inquiries. A qualitative research design was used to gather data using a research developed questionnaire. The questionnaire was developed utilizing attrition variables described by Tinto (1987). Tinto (1987) listed several aspects of a student's educational experience that ensured success or caused termination subsequent to graduation. These principles are as follows: (1) institutions should ensure that new students enter with or have an opportunity to acquire the skills needed for academic success; (2) institutions should

reach out to make personal contact with students beyond the formal domains of academic life; (3) institutions' retention actions should be systematic in character; (4) institutions should start as early as possible to retain students; (5) the primary commitment of institutions should be to their students; and (6) education, not retention, should be the goal of institutional retention programs.

The instrument was developed from these principles to gather data on the retention and recruitment of nontraditional students in the Automotive Technology program at Southern Illinois University. Information was collected on the factors that influenced the decision to select automotive technology as a program of study and decide to attend Southern Illinois University's Automotive Technology program. Information was also gathered relating to specific reasons nontraditional students were successful in their educational experience or decided to terminate their education subsequent to graduation. The questionnaire included Likert-type questions and short answer questions.

To determine content validity of the instrument the researcher sought suggestions from a panel of four current automotive technology faculty and two current nontraditional automotive students at Southern Illinois University. Revisions to the instrument were made to reflect the panel's suggestions.

The questionnaire asked for responses about student status upon entering the program. Other questions examined factors influencing their career choice and factors that contributed to their success in automotive technology classes. Twenty-one students were identified, and the findings were based on 17 responses, which represent an 81% response rate.

Results

Automotive educational recruitment history was analyzed. Seventeen women and black students responded to the survey. Recruitment traits reported by the respondents were 'entering status' and 'factors influencing career choice (see Figure 1).


Figure 1. Entering Student Status
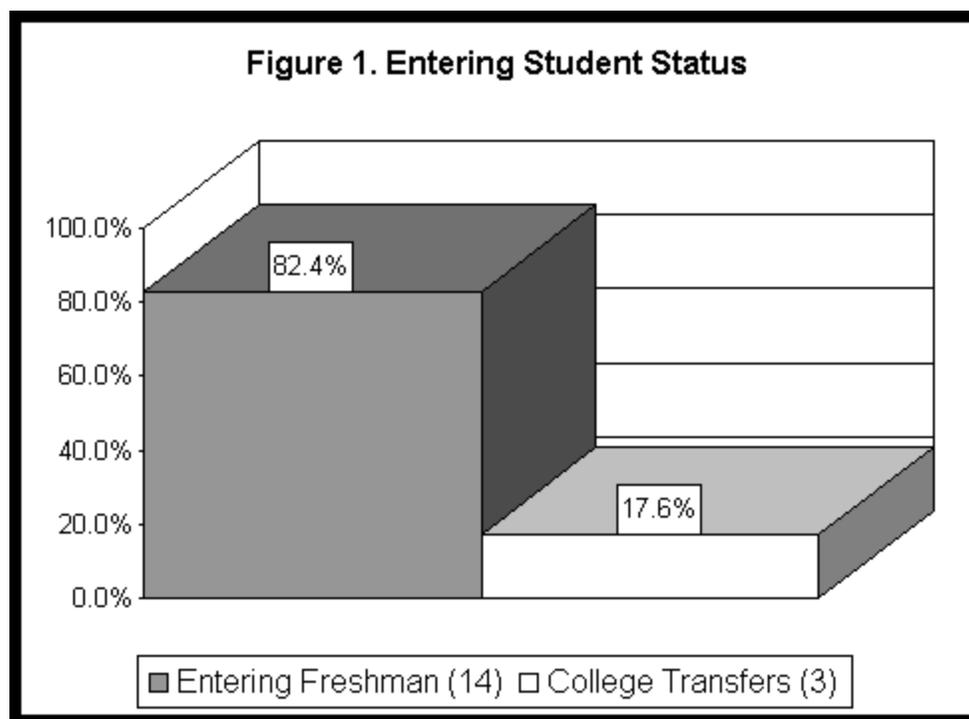
The factors influencing a student's decisions to choose a career in the automotive industry were analyzed. Figure two shows six (35.5%) respondents indicated that 'high school automotive instructors' and four (23.5%)respondents indicated that 'family members' influenced the students

in choosing their career in the automotive industry. Others responded that their reasons for selecting automotive technology as a career option came from influence of other factors including three (17.6%) 'automotive employees,' two (11.8%) 'high school guidance counselors,' and two (11.8%) 'automobile a hobby.'


Figure 2. Factors Influencing Students Career Choice
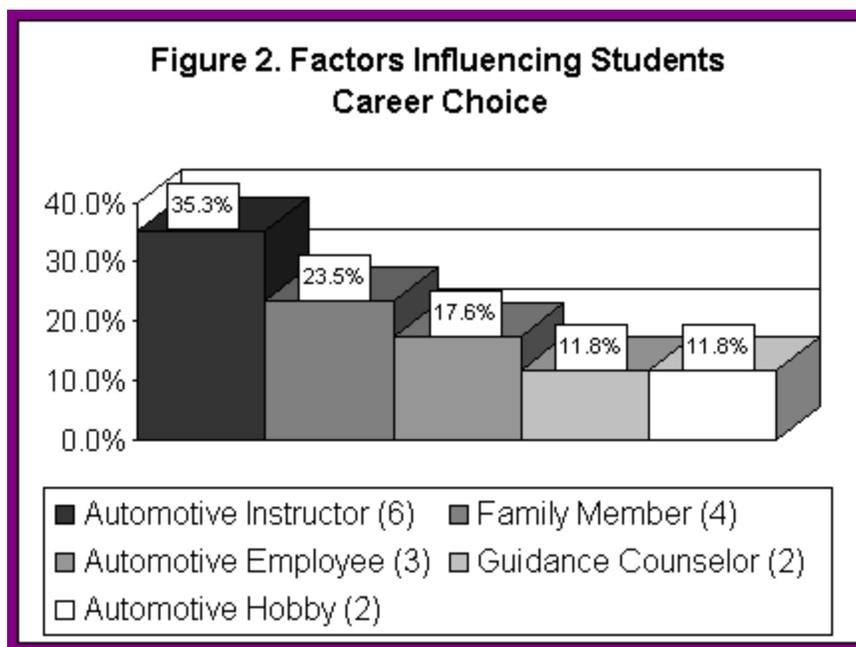
Retention

Automotive educational retention history was analyzed. Nine students responded to the survey questions. Retention traits reported by the respondents were 'Factors Contributing to Success' and 'Suggestions for Success.'

Figure 3. Factors Contributing to Success
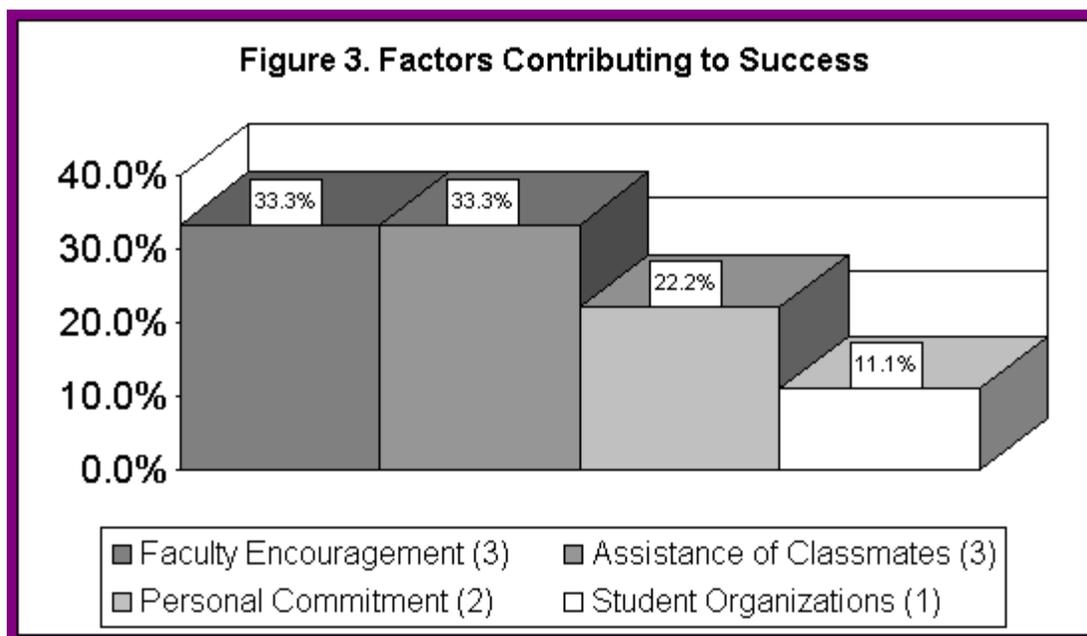
Three (33.3%) respondents indicated that 'faculty encouragement' and 'personal involvement from 3 (33.3%) fellow students' were important to their success in the automotive technology program. Two (22.2%) of nine respondents reported 'personal commitment' helped them succeed. One (11.1%) respondent indicated that 'student organizations' were helpful in acquiring success (Figure 3).

Four (44.4%) respondents indicated a need for 'more mentors' in the automotive program as 'Suggestions for Success' (see Figure 4). Four (44.4%) reported that an 'increased number of black scholarships' would assist in their success. One (11.1%) of the nine identified 'improved flexibility for child care' as a suggestion for success.

Figure 4. Suggestions for Success
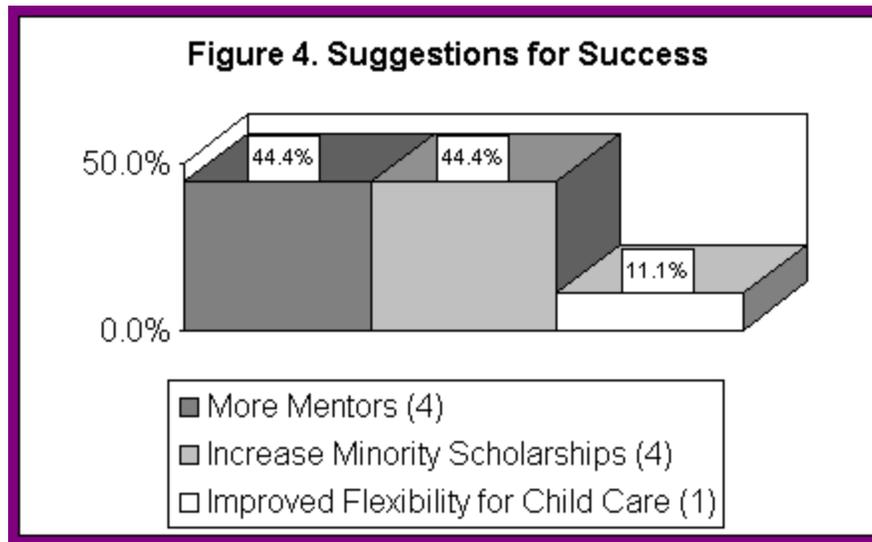
Conclusions and Recommendations

The following conclusions were derived from the results of the survey. Recruitment traits showed 82.4% of women and black automotive technology students entered Southern Illinois University directly from high school as compared to their counterparts (17.6%) who enter as college transfers. The high school automotive instructors were an influential factor (35.5%) for women and black students choosing automotive technology as a career. Of that group surveyed, no student was entering automotive technology as a displaced worker as mentioned in the literature review.

Retention traits surveyed were factors contributing to success in automotive technology classes and suggestions for success from the group of women and black students responding. 'Faculty encouragement' provided 33.3% rating toward students' success. 'Informal mentoring' by fellow automotive students contributed 33.3%. Contrary to the Person (1994) study that revealed that black-oriented student organizations are critical to success, only one (11.1%) of the respondents indicated that this was the case.

Four (44.4%) of the respondents so indicated a need for more mentor relationships, which is the concern reported by Person (1994) in the literature review. Additional scholarships for women and black students will improve overall conditions that assist school retention as reported by four (44.4%) of the respondents. The following recommendations are offered:

1. Continue to contact high school automotive instructors in recruitment activities and increase correspondence with high school guidance counselors.

2. Investigate methods of increasing the number of scholarships available to women and black students in automotive technology.

3. Implement a formal mentoring program in automotive classrooms.

4. Continue and strengthen the existing tutoring programs.

5. Reinforce to faculty the importance of their efforts effecting the retention rate of students in their classes.

6. Research the relationship between social and academic factors that are believed to help women and black students' retention rate in college automotive technology programs. More research into the role of student organizations and peer programs in student retention of blacks and women in automotive programs is needed.

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