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Influence of Gender and Program of Enrollment on Adolescents' and Teens' Occupational and Educational Aspirations

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Abstract

The study examined relationships of gender and program of enrollment to adolescents' occupational and educational aspirations using data from youth in grades 7-12. Frequency distributions created demographic profiles of participants. A regression analysis used job choice as the dependent variable, and gender and program of enrollment as independent variable. Results indicated students desired professional jobs, many requiring graduate degrees or licensing. Gender and program of enrollment were significantly related to ideal job, with program of enrollment being a stronger predictor. Nearly 1/2 of vocational students desired professional jobs, yet expect to work in lower positions in the jobs hierarchy than their college preparatory counterparts. This study confirmed existing knowledge about unrealistic occupational and educational aspirations held by adolescents. Job opportunities likely to be available to them do not match goals. Recommendations focused on providing more opportunities for students to explore realities of the labor market and make choices in-line with abilities and interests.

Introduction

The worker of the future will be expected to be mobile, and ready and willing to learn. Many factors impact on both entry into and subsequent movement within the labor market for groups and individuals, not the least

of which is how a person views the world of work and how he/she fits into it. This occupational identity forms from complex interactions of many political, family, and environmental factors (Flanagan, 1995; Hacker, 1992; Harter, 1990; Steinberg, 1989).

The knowledge of students' aspirations plays an important role in the education planning process regardless of the philosophical underpinnings that drive the program development process. On one hand, the developmental perspective of Dewey yields an education system grounded in a philosophy of teaching the individual that is generally accepted as one of the keys to optimal development of all persons (Mosher, 1995; Venn, 1966)—human development is the objective of education in this system. To maximize human resource development, each person would have a choice in making decisions and arriving at answers to problems, ideally done through the acquisition and evaluation of facts, rather than decision making based on bias, prejudice, or tradition.

The alternate philosophy that has dominated societal views about education has been one that evaluates schools based on whether they "deliver the goods" rather than developing people. Education programming developed within this philosophy produces worker-citizens and is focused on meeting industrial or governmental goals for efficiency and global standards of progress (Gregory, 1995).

The process of choosing an occupation and/or a career is important within each of these competing frameworks and is heavily influenced by background and attributes such as race and gender (Harter, 1990; Steinberg, 1989). However, many educators, including this researcher, believe that human development rather than efficiency is the ultimate standard for evaluating educational productivity (Johnson, 1994). Learning to "live in a place well" requires a renewed focus on the individual and his/her skills and development. Even with changes to an educational model focused on individual human development, however, the economic climate in any given area may still be such that only the lowest expectations of students are met—a true "Catch-22" for educators (Johnson, 1994). The facts are, students have what are very real (to them) dreams and aspirations based on their feelings of achievement and worth (Harter, 1990; Steinberg, 1989) . With this in mind, identification of factors that influence how adolescents and teens view the world of work would provide useful information for the planning and implementation of career education and development programs, particularly those targeted to placement of nontraditional students.

Conceptual Framework

Choices made by young people affect who they are and what they do (Adelman, 1994), especially choices of what courses to take in high school or whether to go to college. If choices limit educational attainment lifetime upward mobility can be reduced since subsequent career paths often emerge from initial job placements (Spilerman, 1977; Topel & Ward, 1992). Gray (1996) reported that over one-half of American youth leave high school with no or inadequate skills to compete in today's labor market. Efforts to keep students in school and to guide their educational choices must be combined with career education programming to ensure that initial employment is the appropriate entry portal for a viable career path.

The career education programs of the 1960s and 1970s were aligned with vocational programming, and were assumed to lead to employment in a specific job area (Super & Bohn, 1970). This trend continued in the 1980s as more and more vocational schools changed to "career centers" or "career and technology centers." Some persons believe the lack of success of career education is directly linked to this alignment (Yoder, E., Personal communication, March 21, 1996). However, all students, not just vocational, need workplace preparation experiences. Good work habits, employability skills, and career-decision making skills are as important to college preparatory students as anyone else (Jennings, 1995).

Rytina (1989) examined the perspective of life chances on the assumption that individuals lack any basis for expecting their futures to be more advantaged or disadvantaged than their current rank. He found that relative standing at first job depended on more than first job alone. It also depended on education and background.

Adolescents develop their notions of ideal and expected work roles through the complex interactions of three primary factors—family background, human capital acquisition, and socialization to class (Harter, 1990;

Steinberg, 1989). A realization of one's social class, resulting from parents' education and occupation/income was found by Steinberg (1989) to be an important determinant of an adolescent's personal occupation and ideological commitments. These commitments also result from awareness, however tacit, or the structural features of the labor market, directly related to family socioeconomic status and attributes such as race and gender.

To sum, linkages can be made between barriers to success and the adolescents' formation of their occupational identities. These linkages can help define the structure of an effective career educational and development program that will meet the needs of all students.

This interdisciplinary study draws on the literature and methodology from vocational education, sociology/demography, and educational psychology. Its purpose was to examine influences on the formation of occupational identity through an investigation of how gender and program of enrollment (college preparatory vs. vocational) are related to students' choices of personal job/career possibilities. Specific objectives were to

1. determine occupational and education goals of participating students;
2. determine if a relationship existed between gender and program of enrollment of participants and their stated occupational goals; and
3. determine if a relationship existed between gender and program of enrollment and participants' stated educational goals.

Methods and Procedures of the Study

The population for the study consisted of 750 students enrolled in grades 7 through 12 in a rural Pennsylvania school district. The school district was chosen because of its involvement in a curriculum development project coordinated by the researcher, and because the district administrators desired an assessment of students' occupational goals to assist in their School-To-Work Transition program planning. Data, collected via a survey developed by the researcher, provided information about students' attitudes, beliefs, and thoughts about jobs and careers, their self-esteem, and their perceived levels of family communication. The data analysis conducted as part of this study utilized sections of the survey that assessed

1. student self-identification of ideal jobs;
2. educational goals and aspirations based on the literature on general mobility and identity formation (Youniss, 1995; Flanagan, 1995; Harter, 1990; Steinberg, 1989; Erickson, as reported in Herr, 1972) ; and
3. demographic information to include gender and present or planned area of study.

Prior to its use, a panel of experts with backgrounds in psychology, sociology, communications, and vocational education reviewed the instrument to assure content and face validity. In addition, the special education coordinator for the participating school district determined its appropriateness for use with special needs students.

Data Analysis

Participants indicated their ideal or "best jobs" in Part I of the survey instrument. A prestige rating for occupations developed by the National Opinion Research Center (NORC) was used to assign a numerical rating (34=low status; 96=high status), to each of the jobs listed by participants (Reiss, 1961). The ideal job prestige score was then used in a multivariate regression analysis as the dependent variable with gender and program of enrollment utilized as the independent variables. Appropriate tests determined there were no violations of assumptions of equal variances, normal distribution, independence, and linearity. A correlation matrix was calculated to determine if significant relationships existed between the independent variables to be used in the regression model (Appendix A). Collinearity diagnostics examined the effects of the significant correlations between the independent variables on the results of the regression. An examination of the Eigenvalues showed little distortion of results of the regression. In addition, tolerance (TOL) and the

variance inflation factors (VIF) revealed that no linear relationship existed between each independent variable and others in the model. Based on adaptations to Blau & Duncan's occupational groupings (1967), the jobs were re-coded and collapsed into six categories: (1) professional, (2) other white collar, (3) clerical, (4) semi- and skilled trades, (5) labor and service occupations, and (6) farming which permitted comparisons for descriptive purposes. Blau and Duncan's groupings were chosen as the basis for the re-code and collapse because they continue to be utilized as groupings by demographers and others who research labor mobility issues.

Participants identified the level of education they believed they would attain. Many options were provided which included the military and technical school, as well as non-degree coursework completion. The 10 categories were collapsed into five for comparison purposes: 1) complete high school, 2) some post-secondary education, 3) a BS degree, 4) some graduate work, and 5) a graduate degree. Two contingency table analyses were conducted using the educational goal categories, one with gender, and one with program of enrollment as the other variable.

Use of Inferential Statistics and Tests of Assumptions

Based on conversations with school district officials, the population for this study was assumed to be a representative sample of populations within this school that existed in the recent past and those that will exist in the very near future. Therefore, inferential statistics were selected for a portion of the analyses even though census data were examined (Yoder, E., Personal communications, March 21, 1996). Since the independent variable groups were unequal, a test of the assumption of homogeneity of variance was conducted, revealing no significant differences in the variances of the population means for any of the dependent variables investigated. Frequency distributions permitted comparisons by gender and program of enrollment for the responses to the job and educational goal questions. Multiple regression models and contingency tables were used to analyze relationships, with a significance level of 0.05 established for all calculations.

Results of the Analysis

Valid data were collected from a total of 612 students. This study utilized analyses conducted for the 374 students for whom data were available for gender, program of enrollment and ideal job. Females comprised over one-half of the participants for which data were available for the analysis (52.9%, N=198); 47.1% were male (N=176). A total of 210 (56.1%) of the participants identified as college preparatory while the remaining 164 (43.9%) identified as vocational. Of those students identifying as college preparatory, 86 (41.0%) were male and 124 (59.0%) were female. The opposite is true for the vocational curriculum. Only 74 (45.1%) of the vocational enrollees were female while 54.9% (N=90) were male.

Most males desired to work in a professional or semi-skilled/skilled trades job (88.0%, N=155) (Table 1). As might be expected, few males (N=3, 1.7%) aspired to clerical occupations. Nearly 80% (79.3%, N=157) of the female participants desired professional jobs with only 17.2% (N=34) aspiring to either clerical or skilled trades jobs. Table 1 also reveals that 247 of the 374 participants (66.0%) have ideal jobs that require post-secondary education; many require graduate degrees, special licensing, or certification.

Table 1
Ideal Job by Gender

	Category of Ideal Job						
Gender	Profess-ional	Other White Collar	Clerical	Semi/Skill Trades	Labor/Service	Farming	TOTALS

	N/(Row %)						
Male	97	8	3	50	8	10	176
	(55.1)	(4.5)	(1.7)	(28.4)	(4.5)	(5.7)	(100.0)
Female	150	7	18	16	6	1	198
	(75.8)	(3.5)	(9.1)	(8.1)	(3.0)	(0.5)	(100.0)
TOTALS	247	15	21	66	14	11	374
	(66.0)	(4.0)	(5.6)	(17.6)	(3.7)	(2.9)	(100.0)

Program of Enrollment and Ideal Job

Over 85% (85.2%, N=179) of the college preparatory and 41.5% (N=68) of the vocational students aspire to professional jobs (Table 2). Fifty-four (32.9%) of the vocational students stated they aspired to a semi-skilled/skilled trades job as compared to 12 (5.7%) of the college preparatory students.

Table 2
Ideal Job by Program of Enrollment

	Category of Ideal Job						
Program of Enrollment	Profes-sional	Other White Collar	Clerical	Semi/Skill Trades	Labor/Service	Farming	TOTALS
	N/(Row %)						
College Prep	179 (85.2)	6 (2.9)	2 (1.0)	12 (5.7)	7 (3.3)	4 (1.9)	210 (100.0)
Vocational	68	9	19	54	7	7	164
	(41.5)	(5.5)	(11.6)	(32.9)	(4.3)	(4.3)	(100.0)
TOTALS	247	15	21	66	14	11	374

	(66.0)	(4.0)	(5.6)	(17.6)	(3.7)	(2.9)	(100.0)

Relationship of Gender and Program of Enrollment to Choice of Ideal Job

Table 3 reveals that, for the participants of this study, gender was a stronger predictor of ideal job than program of enrollment as evidenced by the Beta weights (-. 334 vs. .247), and no significant interactions existed between the gender and program. In addition, the model revealed that females and college preparatory students were more likely to choose jobs higher on the jobs hierarchy—the professional and other white-collar occupations (Table 3).

Table 3
Regression of Gender and Program of Enrollment on Choice of Ideal Job, Controlling For Grade Level (N=374)

Variable	B	b	t	p
Gender	-7.831	-.334	-4.709	.000
Program	5.837	.247	3.748	.000
Gen*Prog	2.888	.104	1.295	.196
Constant	74.261		20.552	.000

Note. F=22.0, p=. 000, R^2=. 184. Dummy codes were created for both the gender and program variables so that "0" = female and vocational, and "1" = male and college preparatory.

Educational Goals by Gender

Forty-one percent (N=152) of the students indicated they will earn a BS degree, and more than one-fifth (21.3%, N=79) believe they will earn a graduate degree (Table 4). This parallels the high number of students (66%) who desire professional jobs. These results support those of prior research (Gray, 1996) which revealed that high percentages of American high school students aspire to a four-year college education and a professional occupation. Females, who comprise 52.8% of the total population, were over-represented in the three highest education level categories, while males, making up 47.2% of the population, were over-represented in the two lowest level categories. Further analysis using a contingency table analysis yielded a significant relationship (C=.258, p< 0.000) between gender and identified educational goals (Table 4).

Table 4
Educational Goals by Gender

	Expected Educational Attainment					
Gender	HS	Some Post HS work	BS Degree	Some graduate work	Graduate degree	TOTALS
	N/(Column %)					

Male	29	54	63	3	26	175
	(70.7)	(61.4)	(41.4)	(27.3)	(32.9)	(47.2)
Female	12	34	89	8	53	196
	(29.3)	(38.6)	(58.6)	(72.7)	(67.1)	(52.8)
TOTALS	41	88	152	11	79	371
(% of total)	(11.1)	(23.7)	(41.0)	(3.0)	(21.3) Coefficient	(100.0) 0.258*

Note. Total reflects 374 participants less three students for which educational goals data were not available.

*Contingency Coefficient, p< 0.000

Educational Goals and Program of Study

As might be expected, college preparatory students (56.1% of total) were over-represented in the degree-attainment categories (Table 5). Of the 79 who indicated they would attain a graduate degree, 69 (87.3%) identified as college preparatory. Of the 152 expecting to earn a bachelor's degree, 107 (70.4%) were college preparatory students.

Table 5
Educational Goals by Program of Enrollment

	Expected Educational Attainment					
Program of Enrollment	HS	Some Post HS work	BS Degree	Some graduate work	Graduate degree	TOTALS
	N/(Column %)					
College	7	18	107	7	69	208
Prep	(17.1)	(20.5)	(70.4)	(63.6)	(87.3)	(56.1)
Vocational	34	70	45	4	10	163
	(82.9)	(79.5)	(29.6)	(36.4)	(12.7)	(43.9)
TOTALS	41	88	152	11	79	371

(% of total)	(11.1)	(23.7)	(41.0)	(3.0)	(21.3) Coefficient	(100.0) .486*

Note. Total reflects 374 participants less three students for which educational goals data were not available.
*Contingency Coefficient, p< 0.000

Vocational students were over-represented[1] in two categories, both below the attainment of the BS degree. While they make up 43.9% of the population of respondents, 82.9% (N=34) of those expecting to only complete high school were enrolled in the vocational program. Of the 88 students expecting to complete at least some post-secondary education, but less than a BS degree, 70 (79.5%) were vocational students. The relationship between program of enrollment and expected educational attainment was found to be significant based on a contingency table analysis (C=.486) (Table 5).

Summary and Discussion

The majority of the participants desired a professional occupation. As might be expected, the majority of these are enrolled or plan to be enrolled in the college preparatory program. Of interest is the fact that slightly over 41% of the vocational students desired a professional job, yet they expect to work in a much lower position in the jobs hierarchy than their college preparatory counterparts. Several questions come to mind in an attempt to understand reasons behind this discrepancy. Do vocational students have lower self-esteem that would make them believe they won't acquire a professional position? Have vocational students been "tracked" throughout their school years to the extent that they lack the prerequisite coursework to pursue a professional career? Or, are they more aware of the opportunities in their immediate surrounding area? Since vocational students have been found to place more importance on things related to family and home (Conroy, 1996) , are they more in touch with their likely occupational futures and understand the decisions with which they will be faced?

The answers to some of these questions may be found in an examination of the actual programs offered through the district. Students are separated (and, ultimately, tracked) into three different areas: 1) college preparatory, 2) technical education (considered college preparatory and non-vocational), and 3) vocational education through the AVTS, to include the business education offerings on-site at the high school. All courses offered through the AVTS are traditional trade and industrial courses: auto-diesel, building construction, business data processing, cosmetology, electronics, health assistant, and metal fabrication. The AVTS students have a less rigorous academic program than their college preparatory and technical education counterparts. Specifically, they complete one less course (year) of mathematics, science, and social studies. In addition, they can graduate without having taken any mathematics beyond applied and consumer mathematics. Vocational students do have the opportunity to take advanced math and science courses. However, if they make the wrong decisions early on in their high school careers, they will be "locked out" of the higher academic options.

Technology education students, by comparison, study systems technology, to include manufacturing and construction technology, energy/power/transportation systems, and communications technology. They are required to take four years of mathematics and science which forces them to complete Algebra I and Biology, at a minimum, to graduate. These students are encouraged to take higher levels of mathematics and science to maximize their experiences in the upper-level technology classes. Many of them aspire to post-secondary education that automatically tracks them into the more advanced mathematics and science offerings.

It is reasonable to expect that the majority of students, and many vocational students, would aspire to professional jobs and their accompanying higher status and other perceived attributes. To determine how realistic these ambitions may be given the fairly high level of importance placed on home and family, the

researcher examined the distribution of the actual jobs held by participants' parents as a possible proxy for jobs in the area (Table 6).

Over 60% (N=62.0%, N=362) of the 584 mothers and fathers for whom data were available work in either the trades or labor/service occupations, as opposed to the 85 (14.6%) working in one of the professional categories. The majority of the fathers work in skilled and semi-skilled trades' areas and labor and service jobs (58.3% combined). The highest percentage of mothers work in labor and service jobs (31.8%), with 14.7% also holding clerical positions. Nearly 12% (11.2%) of the mothers are employed in professional occupations as compared to 8.8% of the fathers.

This is directly due to the fact that 40 of the 42 mothers holding professional jobs are working either as teachers (N=22) or nurses (N=18), two historically "female" occupations. Clearly, the types of jobs that seem to be available in the surrounding area do not parallel those desired by the students participating in this study (Table 6).

Table 6
Distribution of Participants' Parents' Occupations

Category of Parents' Employment	Fathers' Employment	Mothers' Employment	TOTALS
	N/(Column %)		
Professional	33	42	85
	(8.8)	(11.2)	(14.6)
Other White Collar	47	17	64
	(12.6)	(4.5)	(11.0)
Clerical	4	55	59
	(1.1)	(14.7)	(10.1)
Skilled/Semi-Skilled	135	25	160
	(36.1)	(6.7)	(27.4)
Labor and Service	83	119	202
	(22.2)	(31.8)	(34.6)
Farming	21	3	24
	(5.6)	(0.8)	(4.1)
TOTALS	323	261	584
	(100.0%)	(100.0%)	(100.0%)

In regards to gender, males were less likely than females to believe they would attain a bachelor's degree, and more likely to believe they would pursue some other form of post-secondary education. This parallels the fact that more males are enrolled in a vocational program and desire employment in semi-skilled and skilled trades' occupations. Many of the actual jobs desired by males in the study are in the lower skills and status end of the semi- and skilled trades, corresponding to the current employment picture in the area as evidenced by parents' reported occupations.

Conclusions and Recommendations

This study confirms existing knowledge in regards to the often-unrealistic occupational and educational aspirations held by American adolescents. The job opportunities which are likely to be available to participants and a changing occupational structure in which more jobs require less than a BS degree do not match their expressed goals. Based on the data analysis, several conclusions can be made.

More students are presently enrolled in the college preparatory curriculum of the participating district than are likely to go to college based on the participating school district figures. As a consequence, the students who participated in this study are not likely, overall, to meet their educational and, as a consequence, their occupational goals. Based on prior discussions that focused on parents' occupations, students who do not finish their post-secondary education goals are likely to be under employed. (Separate data analysis/studies revealed that, based on their education levels and the types of jobs apparently available in the area, many of the parents are underemployed; Conroy, 1996.)

Female students in the district are not socialized to limitations of their occupational and/or educational goals based on considerations of marriage and children. There is less identification with traditional female occupations for the females participating in this study as compared to the norm from 25-30 years ago (Super & Bohn, 1970). In the 1960s and 1970s, marriage and the prospect of children were very much a factor in how high school age females identified their educational and occupational goals. The question becomes, since 62% of the females in the survey are college preparatory students, how quickly will reality lead to a modification of their goals? Or is reality changing for the cohort that includes these participants? The concern may be that, if trends of the past continue and national statistics apply to the area, less than one-half of the females will complete a degree and many will be single mothers supporting a family with less than adequate preparation to do so.

In summary, having choices in decision-making and the ability to arrive at answers to problems are keys to maximizing individual and collective human potential. For young people, the decision-making process is crucial as they make educational and other choices; particularly those involved with choosing an occupation and/or a career. Appropriate decisions made prior to entry into the labor market help ensure that adolescents' and teens' ideal work roles will closely match careful assessments of interests, abilities, and labor market needs.

An effective career education and development program is integrated into the total educational program, and provides a broad-based exposure to the world of work through experiential learning. In fact, orientation to work and assistance in career choice is now viewed by many education professionals as more valid determinants of employment success than actual skills training (Flanagan, 1995). Each student must be provided with opportunities for self-discovery of his/her talents, and with appropriate instruction and activities to relate those talents to the world of work.

Historically, the goal of career education and development programs has been to help individuals choose an occupation or career. With the advent of Tech Prep and School-To-Work Transition programming, career education takes on a new meaning. From this more broad perspective, career education will be appropriate for all students; not just those enrolled in vocational programs and will be considered successful if students are able to secure meaningful and satisfying work. The new career education programs have as their main objective that students will increase their base of knowledge, thereby increasing the likelihood of realistic choices.

Based on the data analyses, the following recommendations are made:

Job awareness and exploration are important beginnings of the workforce preparation process, and should occur at an earlier age than the typical 9th or 10th grade program. Poor decisions at an early age result in "settling for" less than what could be--a functional adaptation to the set of limiting conditions created as a result of the decision-making process.

Data on labor market trends, as published by the national and state departments of labor and industry, should be provided to all students. The data should be provided as part of regular, planned courses of study, and not just as available resource material, with activities focused on reading and evaluation of county and local labor market data. Development of skills related to setting short-term, incremental, and achievable goals, based on implications derived from the labor market data, should be a primary objective of this coursework.

Individualized measures of interest and aptitude should be part of an ongoing process as students engage in experiential activities exploring various job and career opportunities. Students should be taught how to critically evaluate themselves in terms of how they may "match" specific occupations currently under exploration. A "Career Development Portfolio" would be a most appropriate vehicle for maintaining this information, to be revised on a regular basis.

While tremendous strides have obviously been made in terms of young women's awareness of their increased access to the labor market, there is still some concern about the issue of *opportunity*. A change in political structure and legislation has created more access to the labor market, yet opportunities are still often controlled by social structures which favor the demographics of the past (Hachen, 1990).

The bimodal system of course offerings at the participating school should be discontinued so that all students, including those who attend the AVTS, are considered "post-secondary preparatory" instead of college preparatory or vocational. Accompanying this change should be an increase in the mathematics and science requirements for the vocational students so that they receive equivalent instruction to other students.

It is recommended that the participating school district fully consider housing the technology education studies at the AVTS, or merge with the AVTS in an agreement similar to the one that coordinates the business education offerings. This would result in an increase in the academic levels of students officially enrolled in the AVTS, and help improve the image, if such a problem exists. However, the negative aspect of this merger would be that the traditional trade and industrial students would still be physically separated from other students of the district.

Implications

Educators and others have known for many years that adolescents have high expectations and aspirations. However, in today's economy, the impact of unmatched expectations carries a more serious consequence than it did 30 or even 20 years ago. It is therefore, imperative that strategies to provide information, exploration, ongoing assessment, and career counseling leading to decision-making be employed by those involved in career education.

The realities are that school districts may not be able to make all necessary changes to put these strategies in place. Gregory (1995) contended that school restructuring has not occurred because the dominant "business-as-usual" paradigm around which schools are organized is so strong that any new program model will eventually adopt the characteristics of the organization in which it is placed. This would include a new program model for career education as outlined in this study, and is an especially difficult issue to address when traditional segregated vocational and academic offerings may be creating part of the problem.

Educators do have a responsibility, however, to introduce students to the realities of the world of work and the economy, both globally and locally. We also have a responsibility to nurture dreams and to have students think beyond their immediate surroundings. At the same time, we must work within our communities to improve economic conditions so that viable career opportunities are available that will closely match

students' aspirations—aspirations that are formed through a sequential, informed decision-making process.

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Appendix A

Correlation Matrix for Variables Utilized in Regression Analyses

	Ideal Job	Gender	Program
Ideal Job	1.000	-.308*	.344*
Gender	-.308*	1.000	-.138
Program	.344*	-.138	1.000

*p< 0.05

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