Economics and Social impact study of business vocational education In Southwest Georgia.

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Abstract:

This study represents a further re-examination of the importance of business vocational education at the high school level in Southwest Georgia and its occupational status attainment of High school students. The study is a survey based research method with applied causal model that incorporates multiple variables as measures of high school students' characteristics, the high school they attended and their business vocational curriculum and courses.

The research variables are presented under figure 1, followed by occupational definitions of term/variables. The variables were categorized as six grouping items. The sample size of one hundred and twenty five (125), selected from five high schools offering business vocational curriculum in Southwest, Georgia, U.S.A participated in the study.

The estimation of the direct and indirect effects implied by the causal model resulted to tables of various statistics, presented under tables 1-3 in the text. The data collected were analyzed using statistical correlation analysis, chi-square analysis and various descriptive techniques. This statistical procedure produced sets of analysis and results representing the direct effects of the causal factors on each of the endogenous /dependent measures.

Secondly, the statistical significance of the indirect effects in the model was tested for their significance. Separate analyses were performed for the frequencies distributions in the data sets. The resulting statistics are in tables 1-3 presented in the main text of this paper. This table presents occupational definitions of applied variables in the study. The occupational definitions of terms used in the paper are also presented in a separate table for purpose of easy reading and understanding. Others authors may define these variables differently but these authors definitions are meant for this study.

Key Words: Vocational Education; Business Vocation; Occupational Aspirations; Selectivity; Social Integration; High School.

Introduction and Background:

There has been a lengthy debate in the scholarly literature concerning the relative importance of career choice and educational attainment in subsequent career success. Those who espouse the meritocratic view contend that educational ability and performance, rather than career choice, are the principal determinants of

individual success (Hill, 2011). From another perspective, training ground for the development of a skilled workforce required an increasingly vocational training in modern technological society (Tinto, 1984, p. 310 and Cooper, 2008). Conflict theorists, on the other hand, contend that the educational system perpetuates historical patterns of social inequity, and they regard social origin, rather than educational ability and economic performance, as the primary determinant of individual success (Cooper, 2008).

The extant research evidence tends to support the general conclusion that the kinds of vocational high schools by high school students and their academic performance within those institutions, have little impact on subsequent status attainment measures when variation due to precollege student characteristics is controlled (Crouse, 1981). The two most commonly used measures of the students' high school experience have been the prestige/selectivity of the high school institution attended and the students' grade-point average (Cohen, 1984; Solomon, 1975).

The apparent minimal relationship between the kind of institution attended and students' academic performance in those institutions and measures of their subsequent career attainments may be due in part to several confounding factors. For example, Kerckhoff et al. (1982) suggested that the conventional use of only one or two measures cannot begin to capture the overall complexity of the educational process and may well have contributed to the findings of a greater direct effect of social origin on subsequent career attainment that is actually warranted. The current evidence may also be an undifferentiated manner because premises of human capital theory regard all industries and occupations as part of a single labor market (Tinto, 1980). This undifferentiated perspective on occupations is not consistent with the more recent theory of segmented labor markets (Hill, 2011).

Tinto and Read (1980; Read, 2010) also suggested that "there are reasons to suspect important differences in both the degree and manner in which formal education influences the process of career attainment in different occupations" (Tinto; p. 460). For example, he noted that vocational education are characterized by the importance of intellectual skills and knowledge requirements that are more appropriately developed in formal education settings (e.g., Painting, iron/mental work etc.), whereas nonprofessional careers are likely to require the cultivation of interests and skills that are more appropriately developed within the work setting. Thus, Tinto (1980) proposed that vocational education and skills attainments are more central to the career attainment process in vocational schools than in nonprofessional schools. His findings support this premise, in that the focus/prestige of the high schools attended and the academic performance of students in those high schools were more highly related to the career attainments of those in vocational education than to those of their counterparts in college, business schools degrees and managerial occupations, earned from the university.

The present study (Snyder et.al; 2012) represents a further examination of the relative importance of vocational business education and educational measures in the occupational status attainment of high school students. The study is based on a causal model that incorporates multiple measures of students' pre-high school characteristics, the high school they attended, and their vocational choices and experiences within these institutions. In addition, separate analyses were performed for those employed in real-time vocational work and non-vocational occupations. These attributes of the present study attend, at least in part, to the principal criticisms of many previous investigations regarding the vocational jobs opportunities (Kerckhoff et al., 1982; Tinto, 1984; Crouse and Trusheim, 1981).
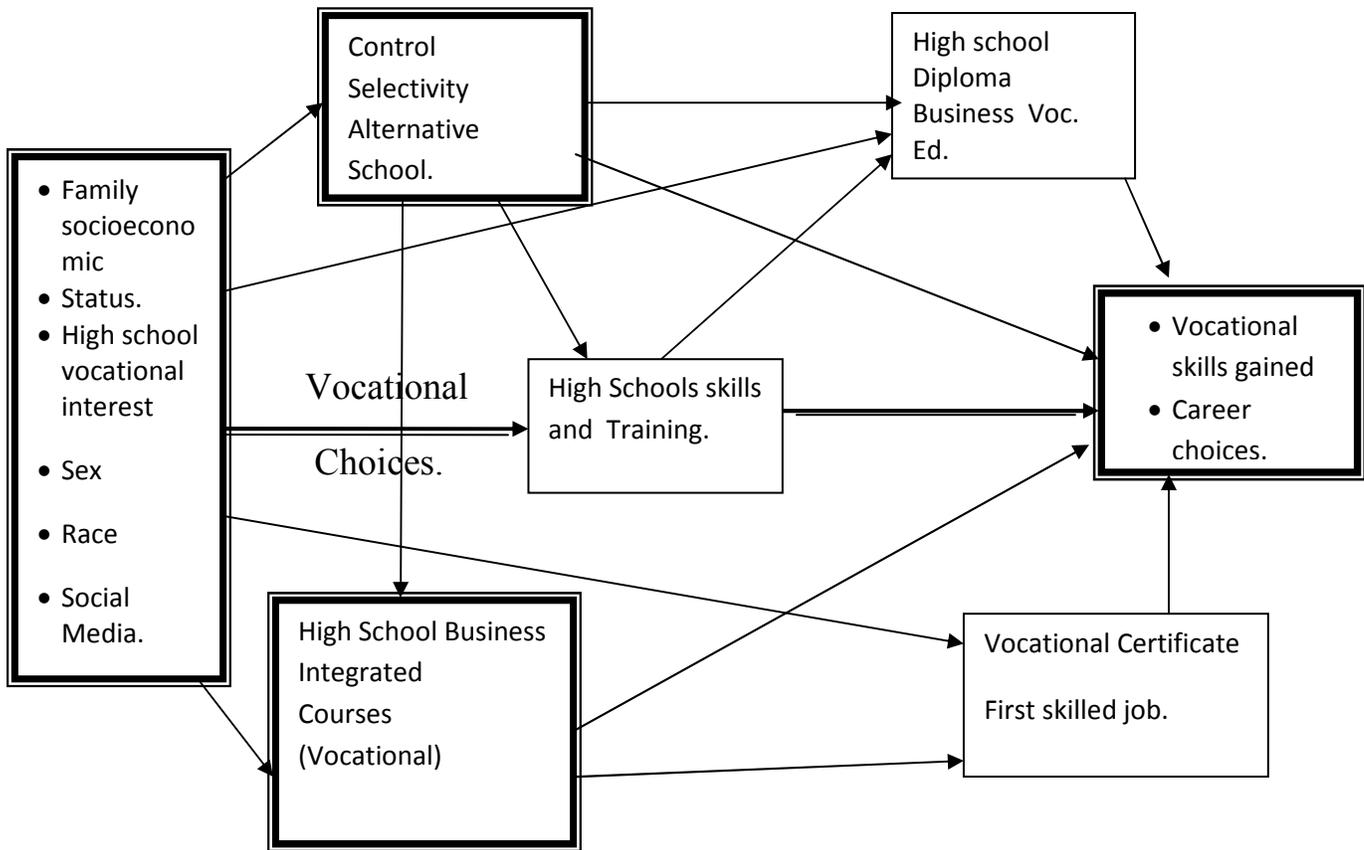
The Causal Model:

Vocational skills and attachments are a result of the complex interaction of attributes of students' background (e.g. social-economic origins, social media, and psychological states occupational aspirations) and their subsequent experiences in their environment (family and schools). Given the above premise, it seems reasonable to expect that differential levels of vocational skills attainment would accrue from students' attendance at different types of high schools and from their different levels of achievements and accomplishments within these institutions, when their precollege characteristics are controlled.

A number of approaches have been used to model the influence of business vocational students' cognitive and noncognitive developmental patterns (Astin, 1970; Vanhus, 2010; Pascarella, 1985). Two of the most useful are the models developed by Chickering (1969) and Weidman (1984), which suggest that business vocational impact is a function of at least three major sources of influence:

(1) the initial or pre-enrollment characteristics of students;
(2) the structural and organizational attributes of vocational high schools (e.g. Alternative school); and
(3) interactions between students and the primary agents of socialization on campus (i.e., faculty and students).

Vanhus; 2010 and Tinto;1975, models of the high school withdrawal process incorporates a fourth source of influence, academic integration, that is, the extent to which students have successful interactions with the institution's academic system and job opportunities upon graduation (e.g., satisfactory academic achievement, selection for academic honor societies and career opportunities), Although other models that have been proposed for the study of high school impacts (e.g., Astin, 1984 ; Pascarella, 1980) differ somewhat in their focus, all appear to have as a minimal core over the four basic components discussed above. Student pre-enrollment characteristics, institutional characteristics, social media with faculty and peers, and level of successful interactions with the institutions' academic system are all influential factors (See figure 1).

Figure 1: Casual model of high school effects on business vocational job
Attainments:

The causal model estimated in this study (see Figure 1) incorporates the principal variables constructs in the models proposed by Elimimian/Snyder (2012). The model is posits that the kind of high school institution attended (e.g., size and selectivity) is a function of student background or pre-college characteristics (e.g., family socio-economic status and initial occupational aspirations). In turn, it is expected that student pre-college characteristics and the kinds of high school attended will influence the nature of students' career choices and work experiences (e.g., social involvement and job skills).

These high schools experiences, in turn, are considered the primary sources of influence on the vocational education attainment and career choices. Such career choices are regarded as the principal influence on the occupational status of their first job following completion of their vocational high school education, training and life time careers. Finally, pre-high school students' occupational status is seen as dependent on all preceding variables in the model, with the strongest direct effects anticipated from the high school vocational education and training. Although significant direct effects are not anticipated from the exogenous, pre-college characteristics, the continuing influence of these variables should be evident in their indirect
.effects on the criterion measures (i.e., business vocational career choices and real time job attainment).

Research Variables:

The model estimated in this study (see figure 1 above) included different variable sex ordered in a causal sequence:

1. Pre-High School student characteristics – family socio-economic status, vocational interest, sex, race and occupational aspirations;
2. Non-vocational institution characteristics – institutional control, selectivity and alternative school/program
3. High School course (s) performance and vocational experience – vocational business courses, sciences, academic integration, social media and career choices;
4. Educational attainment level – high school diploma in vocational business education.
5. First Job – Internship opportunity with business vocational skills and first career job following completion of high school;
6. Current Job – Employed because of business vocational training, skills and job opening.

Table 1 below presents full operational definitions for all variables included in the model, as their reliability estimates where available and appropriate to the researchers.

Research Methodology:

     The data in this research were collected throughout the entire public school district in a Southwest Georgia community. School and class selections were made randomly. High school students in selected business vocational classes and programs were given a structured questionnaire which took about 20 minutes to complete. It was administered during class time. School administrators and teachers approved of students who participated in the survey. All data were self-reported with no means of reliably confirming its accuracy. Both business vocational students and those in traditional college preparatory programs taking business vocational electives were included. Students were assured of anonymity and confidentiality to encourage participation and candor in providing information.

Sample Size:

The population for the study is one hundred and twenty five High School students. They were randomly selected from five business vocational High Schools in Southwest, Georgia, U.S.A. The return rate was 100% of those surveyed. The data collected and analyzed were based on this sample size.

Data Analysis:

The estimation of the direct and indirect effects implied by the model proposed in this study was done with various statistical choices. The data collected were analyzed using statistical correlation analysis, chi-square analysis and various descriptive techniques. This statistical procedure produced sets of statistical analysis representing the direct effects of the causal factors on each of the endogenous /dependent measures. Secondly, the statistical significance of the indirect effects in the model was tested for their significance. Separate analyses were performed for the frequencies distributions in the data sets. The resulting statistics are in tables 1-3 presented as follows.

Table 1:

     This table presents occupational definitions of applied variables in the study. The variables are numbered 1-12 for clarity of purpose for the readers. Others may define these variables differently but these authors definitions are meant for this study.

Table 1. Variable Definitions

High Schools Characteristics - Variables	Occupational Definitions
Family socioeconomic status	A four measure based on the educational levels of the respondents' parents, annual parental income and fathers' occupational status.
High-school academic achievement	A three-item measure based on the respondents' high school grade-point average, class rank, and membership in a scholastic honor society. They were eight grade-point average levels (from "D" to "A" or A+).
Sex	Sex of student coded: 1= male, 2= female; 3 = others.
Race	Race of student coded: 1=black, 2= white, 3 = Hispanic.
Initial occupational aspirations	This was a single item with occupational codes.
Control	A dummy variable coded "1" for public high schools and "2" for private high schools.
Size	Total institutional enrollment measured on a nine-interval scale ranging from "less than 250" to "5,000 or more."
Science major	A dichotomous measure of respondents' academic major coded "1" for non-science majors and "2" for science majors.
Social integration	A three-item measured assessing the respondents' involvement with peers and faculty ("knew a professor or administrator personally," was "president of one or more student organizations"). Response was coded "1" for no and "2" for yes.
Highest earned diploma or Certificate	A measure of the highest certificate/diploma earned.
Vocational skills on first job	A single item with occupational fields converted to business vocational education choice.
Vocational diploma on current job	A single item with vocational fields in which respondents' indicated their current job.

Note: A two-step procedure was used to develop scores on all measures where individual items were on a different metric. First, all items were standardized; second, the score for each individual was obtained by summing across the standardized items.

Table 2: Unstandardized Indirect Effects on Current Vocational Job Status.

To demonstrate the significance or non-significance of our variable, unstandardized indirect effects on high school current vocational students' status were analyzed. These numbers and statistical values of the data on Table 2, is clear and easy to comprehend. A short note follows the table 2 as presented.

Table 2: Unstandardized Indirect Effects on Current Vocational Students Status

Independent Variables	Vocational Jobs	Non-vocational Occupations
Family socioeconomic status	.446* (.060)	.533* (.093)
High-school academic achievement	.408* (.068)	.371* (.113)
Sex	-1.561* (.273)	1.330* (.394)
Race	-1.282* (.353)	-1.267* (.499)
Initial vocational aspirations	.094* (.009)	.046* (.011)
Control	1.163* (.351)	2.251* (.430)
Selectivity	.049* (.011)	-.007* (.015)
Size	.143* (.088)	.338* (.108)
Science Major	.062* (.246)	-.484 (.379)
Academic integration	.751* (.083)	.551* (.120)
Social integration	.174* (.059)	.329* (.080)
Vocational high school diploma	1.310* (.118)	.787* (.138)

Standard errors of indirect effects are in parenthesis.

*$p<.01$

These indirect effects represent the influence of each predictor variable on the dependent variable mediated through intervening predictors in the model. The above results are structured according to the sets of predictor variables (current vocational job placement) in the model, with attention given to similarities and differences in

the equations for those in vocational and non-vocational occupations. Direct and indirect effects are presented together.

Table 3:

      The overall influence of the exogenous pre-high school students' characteristics was primarily indirect. Careful inspection of Table 3 indicates that all pre-high school students' characteristics exerted a significant value of p<.01 or better indirect effects. It may differ in few instances. For example, sex had a positive indirect effect for those in non-vocational occupations and a negative indirect effect for those in vocational occupations.

      Also, initial vocational aspirations had twice as great an indirect effect for those in vocational careers (.096) as for those in non-vocational positions with .046. The direction and magnitude of the indirect effects for family socio-economic status and racial identity were reasonably similar for those having current vocational employment in business.

Table 3: Total Effects of Predictor Variables

Independent Variables	Vocational occupations	Non-vocational occupations
Family socio-economic status	.448	.919
High school academic achievement	.559	.322
Sex	-4.614	3.054
Race	-1.668	-.707
Initial vocational aspirations	.200	.093
Control	.788	4.764
Selectivity	.080	-.001
Size	.323	.905
Science major	-2.743	-3.068
Academic integration	.694	.516
Social integration	.267	.647
High school satisfaction	.633	1.054
Highest diploma	3.838	1.124
Vocational skills on first job	.286	.319

Summary and Conclusion:

This study represents a further re-examination of the importance of vocational business education and educational measures in the occupational status attainment of high school students in Southwest Georgia. The study is applied a causal model that incorporates multiple measures of students' pre-high school characteristics, the high school they attended, and their vocational choices and experiences within these institutions. In addition, separate analyses were performed for those employed in real-time vocational work and non-vocational occupations(current job status). The results and attributes of the present study attend, at least in part, the responses to the principal criticisms of many previous researches regarding the relevancy of vocational high school curriculum and job opportunities upon graduation.

Vocational high school education and skills gained are a result of the complex interaction of business vocational curriculum, attributes of students' background (e.g. family social-economic, origins, social media, psychological states of students, and occupational aspirations) and their subsequent experiences in their environment (family and schools). Given the above premise, it was found that differential levels of high schools vocational skills gained accrued from students' attendance at different types of high schools in Southwest Georgia and from their different levels of achievements and accomplishments within these institutions, when their pre-high school characteristics are controlled.

The study concluded that business vocational education at the high school level is a function of these major influences, thereby reaffirming the results of previous studies and their collective hypotheses. Such influences are as follows:

> (1) the initial or pre-enrollment characteristics of students;
> (2) the structural and organizational attributes of vocational high schools (e.g.
>   Alternative school); and
> (3) interactions between students and their primary agents of socialization on
>   Campuses and career choices.

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