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PRECURSORS OF PROFESSIONALISM OF GRADUATING BUSINESS STUDENTS: IMPLICATIONS FOR BUSINESS EDUCATION AND THE PROFESSION

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Keywords: academic capitalism, autonomy; business education; business ethics; business students; confirmatory factor analysis; expertise; exploratory factor analysis; professionalism; self-concept; social agency.

INTRODUCTION

Since the inception of business education at the start of the 20th century, the marketplace has exerted substantial influence on the practice of business education. Unlike other academic disciplines, business education did not develop from research and scientific methods used in the field; instead, it evolved from industry procedures and practices that were formalized as business theory and textbooks (Foundation, 1959; Pierson, 1959; Porter & McKibbin, 1988). Two major research reports – the Pierson (1959) study and the Gordon and Howell (1959) report – described the status of business education as it emerged and flourished into a major component of American higher education. These reports found weak business curriculum, poor faculty quality,

and greater emphasis on the vocational curricula in U.S. business schools. The reports advocated for rigorous curricular content in business school courses, the integration of liberal arts courses, and additional academic training of business faculty to bring them up to the level of other university faculty (Hugstad, 1983; Pierson, 1959; Porter & McKibbon, 1988). Since then, business schools have implemented some improvements to improve the curriculum, faculty quality, and overall training of business students, however several scholars noted heavy emphasis on quantitative and analytics at the expense of professional development of business students (Daniel, 1998; Porter & McKibbon, 1988).

However, the high demand for business schools to produce an increasing number of graduates limited the need for these programs to overhaul education system, so many of the initial weaknesses identified continue to prevail even in the present time (Khurana, 2007; Swanson & Frederick, 2003). The educators in business schools continue to have a significant percentage of faculty from primarily professional tracks which substantially influenced the instruction in business classes (Khurana, 2007; Martensson, Bild, & Nilsson, 2008). Given the qualifications and training of the faculty, greater emphasis was placed on teaching the students applied skills over theoretical knowledge and less emphasis on critical thinking, and the integration of theory into practice (Daniel, 1998). The quality of business schools influenced the courses offered to business students, increasing the emphasis on applied skills while decreasing the attention given to a holistic model that incorporates all aspects of professional training such as autonomy of judgment, critical thinking skills, and duty to society of business professionals (Khurana, 2007; Trank & Rynes, 2003). Khurana (2007) indicated that business schools proliferated during a time when there were numerous unresolved questions about the role of business and corporations in society, as well as uncertainty about their willingness to include broader societal objectives in their training. Therefore business schools' felt that it was safer to respond to the demands of the market, which had an insatiable appetite for applied skills but not necessarily all skills that professionals ought to have. As a result, the practical and applied skills training approach that business schools followed may have influenced business students' professional attitudes.

For that reason, in this study, the professionalism framework was selected to evaluate business students' professional attitudes and readiness as they graduate from college. Scholars studying professions assume that common characteristics exist among professionals, including (a) expertise that all professionals develop through rigorous training in higher education; (b) a sense of duty to the public good, or the "social-trustee" element, that compels individuals to restrain from actions of self-interest or incentivize individuals to work on social issues where they act as representatives of their profession; and (c) autonomy in actions which stems from professional responsibility or the practice of independent judgment guided by special knowledge (Brint, 1996; Imse, 1962). Other scholars studying "professionals" added another construct to the professionalism framework that they called *self-concept* (Arthur, 1995; Freidson, 1985, 1994; Haywood-Farmer & Stuart, 1990). This category predicted readiness for carrying out the responsibilities of a professional role. In this study, these elements are referred to as *precursors of professionalism* (REF). These precursors are indicative of the professional attitudes that business students possess as they graduate from college and enter their professional careers. Senior-level business students cannot be defined as professionals at the end of their undergraduate program because they have not attained the necessary experience or the professional association in their field yet, which is a necessary requirement to become a professional and to be considered within those ranks (Brint, 1996; Freidson, 1984). This study

uses the precursors as the markers of students' professionalism, for comparison among senior-level college students, at the beginning of their journey to their prospective careers.

LITERATURE REVIEW AND THEORETICAL FRAMEWORKS

The review of the literature and theoretical frameworks are organized to discuss the factors that may have influenced business education as well as the development of professionalism in business school. These areas will be discussed as follows: (a) contemporary higher education influences on business education (b) the discourse of practitioners' training in business schools and the emphasis of practical and technical knowledge; (c) ethical development of business students; (d) professional theory and studies in professionalism in business and other disciplines.

Contemporary Higher Education Influences on Business Education

Colleges and universities developed as non-profit organizations that were highly dependent on state and federal funding (Slaughter & Leslie, 1997; Slaughter & Rhoades, 2004). They had high aims and aspirations for their institutional missions. However, when federal and state funding decreased, these institutions and the programs within it were restructured to depend on other sources of funding, such as private and industry funds. The construct of academic capitalism, as noted by Slaughter and Leslie (1997), was based on the premise that administrators of educational institutions had slowly separated their enterprises from state and federal government and became closer and more connected to the market. Knowledge became a commodity to be extracted, manufactured, and sold as a private good, and the original aim of making knowledge available to all was thwarted by market mechanisms.

In business school connections between academia and the corporate sector were tighter than other disciplines. Donations to business schools were widespread. Corporations continually made generous contributions to business programs. One study estimated that there were several major donations to U.S. business schools between 1997 and 2003, ranging from \$23 million to \$100 million (Starkey & Tiratsoo, 2007). These contributions were likely to have influenced the ideology of faculty and administrators at these campuses by inciting them to customize educational offerings as if it were a "private good." Slaughter and Rhoades (2004) described this phenomenon by saying that the public, the faculty, the students, the corporations, and the state were "actors" rather than passive bystanders in this network that generated social changes. The power of this network resided in academic capitalism, which blurred the boundaries between the private and public sector and allowed significant influence from the private sector on education.

Arguably, business schools with their tight connections to the business field were a prime example of the application of the theory of "Academic Capitalism" (Slaughter & Leslie, 1997). They taught management principles that helped corporations but not society at-large (Browning, 2003; Parks, 1993). As a result, these institutions focused more on business principles that served the power of the corporation and its shareholders, rather than its societal stakeholders, in order to ensure the survival of the school and the success of the students (Augier & March, 2011; Khurana, 2007; Nino, 2011; Swanson & Fisher, 2009). This may have influenced students' professional attitudes and values.

Practitioner's Knowledge Emphasis in Business Education

The success of business enterprises in the twentieth century helped to fuel the growth of business schools (Pierson, 1959). During the onset of the globalization of the economy on a large scale, the corporate sector increased the pressure on educational institutions to introduce programs that would fill the demand for a commercial labor force that could compete in a global marketplace (Gregg & Stoner, 2008; Porter & McKibbin, 1988). The influence of the corporate sector

encouraged institutions to direct their efforts to the development of programs that encouraged practical reasoning and application of knowledge (Colby, Ehrlich, Sullivan, & Dolle, 2011; Slaughter & Leslie, 1997). The close ties between business concerns and academia caused business schools to emphasize the technical aspects of business education over general education and the values of the business profession (Brint, 1996; Khurana, 2007). As industries demanded more of their practitioners' knowledge, business schools increased the emphasis on specialized skills in areas such as marketing, accounting, finance, and then even more specialized in areas such as banking, warehousing, retail, and real estate (Colby et al., 2011; Porter & McKibbon, 1988). Additionally quantitative and statistical analysis in business gained prominence and business students pursued them for the financial rewards they provided (Crainer & Dearlove, 1999; Porter & McKibbon, 1988). The higher the financial rewards given to business students in the market place, the higher self-concept these professionals showed in the market place. One study conducted by Graduate Management Admission Council (GMAC) surveying employers of business and other students reported higher abilities in motivation and leadership of business students (General Management Aptitude Test, 2011).

A consequence of the education that practitioners received resulted in significant changes in the academic workforce. The percentage of adjunct and professional faculty who worked in business education has consistently remained above 51% of the total instructional workforce, an indicator of weak instruction and heavy emphasis on applied knowledge. Of the adjunct and professional educator population, only 11% held Doctoral degrees, while the majority taught with only a Master's degree (Cataldi, Bradburn, Fahimi, & Zimble, 2004). The teaching workforce that lacked training in research may have influenced business students' development of professional values in a manner consistent with other undergraduate programs of study (Cataldi, Bradburn, Fahimi, & Zimble, 2004; Gordon & Howell, 1959). And although there has been significant improvement of the educational credentials of full-time business school faculty with the majority of them have attained a doctoral degree. Several researchers reported that this group of faculty places significant emphasis on technical research and applied scientific methods to produce research that may not be relevant to the profession or to teaching students in the classroom (Crainer & Dearlove, 1999; Starkey & Tiratsoo, 2007).

The emphasis of business schools on applied knowledge resulted in higher salaries for students, since this applied knowledge was responsive to corporate needs. This satisfied the desires of students and business schools. The minimum requirements for a business degree identified by the market were met, which led to complacency in business schools concerning the need to improve the quality of education for the sake of education itself, let alone teaching concepts of leadership, imagination, values, and vision. Several researchers studied business schools' offerings and compared them to industry's preferences. They aimed to verify whether the industry still preferred practical training to analytical/theoretical training, and whether the attitudes of academics and industry executives displayed any evidence of convergence. They found that business personnel directors displayed continued indifference to the inclusion of the liberal arts training in business programs (Colby et al., 2011; Crainer & Dearlove, 1999; Hugstad, 1983). Business's preference for applied skills in the curricula of business schools was a significant contributing factor to the lack of emphasis on the liberal arts and other professional training in business schools (Crainer & Dearlove, 1999; Porter & McKibbon, 1988).

However, this emphasis on applied skills in business schools resulted in a myopic training paradigm. These training practices facilitated the development of expertise in students, at the expense of the other domains of the knowledge that business professionals needed to

possess to develop as professionals. The influence of industry is a strong factor, but there are other influences on business education as explained below.

Ethical Development of Business Students

Few research studies have addressed business students' attitudes towards societal issues and their ethical development during college. Piper, Gentile, and Parks (1993) interviewed forty-two first-year Harvard MBA students in a study evaluating their moral constructs. The study found that these students had a limited understanding of systemic harm and societal injustice and the consequences of their decisions, although they had a strong sense of interpersonal accountability for trustworthiness and honesty (Education, 2008; Piper et al., 1993). Many of these students lacked encouragement to think critically about societal issues and the influence of business on society (Piper et al., 1993). However, (Pascarella & Terenzini, 1991) found evidence that college students' moral reasoning abilities were enhanced during undergraduate study especially when intentional curriculum and methods were used.

In addition, Delaney (2005) studied the influence of receiving ethical training on MRA on students. He found significant differences in MRA in students receiving additional curriculum in ethics (Delaney, 2006). McNeel (1994) conducted a meta-analysis on studies of students' moral development in undergraduate programs finding an average advantage of 28% on the Defining Issues Test (DIT) for seniors over freshmen in principled moral reasoning. For business students, if these patterns of moral development during college years were missing due to a lack of intentional curriculum and assessment of results, then these weaknesses may result in later problems in students' professional lives (Khurana, 2007; Parks, 1993; Swanson, 2004; Swanson & Frederick, 2003).

Some studies indicated that business schools did not attempt to change their programs in spite of the rise in ethical misconduct in the corporate environment (Khurana, 2007; Swanson & Frederick, 2003). Crainer and Dearlove (1999) reported that the vast majority of MBA programs do not include a business ethics course within their mandatory requirements. It was not surprising that the reputation of several prominent business schools was harmed, given the association of their alumni with a number of infamous corporate scandals (Swanson, 2004). The scholars that were mentioned evidenced a strong signal that business students were not developing as well as they should as professionals during their graduate and undergraduate programs.

Yet another influence on business education was the main accrediting agency for business programs in the United States, the AACSB. This agency had the most authoritative power to dictate requirements at business schools. In 2003 the AACSB included a recommendation that all business school curricula include content covering ethical practices as a requirement for accreditation, they did not specify how business schools should incorporate this requirement into current courses and/or course sequences (Miles, Hazeldine, & Munilla, 2004). Instead, the AACSB allowed business programs to decide how they would integrate ethical curriculum within their courses and yet it did not require a single course on ethics for accreditation (Miles et al., 2004; Swanson & Frederick, 2003). As a result, the coverage of professional ethics in business coursework was inconsistent (Miles et al., 2004; Swanson & Frederick, 2001). Deans from business schools stated that ethics and professional training was integrated in several courses, such as marketing, finance, operations management, accounting, and strategic management. Yet Swanson (2004) reported that a large number of business professors found it burdensome to include well-developed case points on ethics. Swanson further explained that the professors rationalized their decision based on the desire to cover the

required material in their courses and the lack of training in teaching these concepts effectively. This may have influenced the moral development of business students.

Professional Theory and Studies in Professionalism

Professional theory as posited by Abbott (1988) borrowed from institutional theory in its use of organized constructs to classify expertise. Knowledge has always required an extensive quantity of learning and human decision making to manage resulting expertise. Professional organizations held individuals together once they graduated from college, based on institutionalized arrangements that created economic returns to their constituencies (Abbott, 1988). The promise of a profession in areas of prestige, compensation, and social network has remained a consistent goal for individuals in Western cultures. These professions formed organized bureaucracies in fields such as law, medicine, accounting, engineering, and architecture. However, colleges and universities were the dominant mechanisms for producing professionals.

After World War II, the business sector was influenced by the pressure of implementing the principles of professionalism in the midst of the proliferation of college graduates and professions (Brint, 1996). College graduates acquired knowledge and expertise in the different careers and were compensated in the market place due to the growth of business enterprises. This economic shift placed more value on “expert knowledge” and indirectly reduced emphasis on the social-trustee facets of professionalism (Brint, 1996). These facets helped develop students’ understanding of their professional duty to society. Additionally professional organizations were supposed to thwart the trend that degraded the quality of professionals to assist educational institutions.

The original intent of university education promised more than the teaching of expertise (Khurana, 2007; Swanson & Fisher, 2008). In theory, the university should have emphasized all elements that supported the development of a professional: “autonomy of judgment,” “desire for expertise,” “self-concept,” and “social-agency”(Arthur, 1995; Brint, 1996; Khurana, 2007). The theoretical framework outlined the use of professional theory and models for understanding the business profession. The following sections outline the conceptual basis for this study.

Numerous scholars (Freidson, 2001; Hall, 1968; Imse, 1962) outlined models of professionalism that included the following components (a) belief in service to public; (b) belief in self-regulation; (c) sense of calling to field; (d) a feeling of autonomy; and (e) professional organizations as a source of authority and reference. Hall (1968) used a 50-item instrument known as Hall’s Professionalism Scale. He compared and ranked different professionals in accounting, advertising, law, engineering, medicine, business, and social work. Hall’s studies focused on the structural and attitudinal facets of professionalization that influenced the strength of professional values. He stated that there was a link between the strength of professional attitudes that took place in the training program and the profession itself. One of Hall’s findings indicated an inverse relationship between bureaucratization and professionalism. An increase in bureaucracy in the workplace resulted in employees achieving lower scores on the professionalism scale. Hall (1968) attributed these results to employees’ loss of autonomy due to the established hierarchy in the work environment that reduced employees’ decision-making ability. This was an important finding due to the presence of a formal organizational structure in most businesses (Hall, 1968).

Haywood-Farmer and Stuart’s (1990) study examined professional values. They developed an instrument to measure the degree of professionalism within medical services professionals. Haywood-Farmer and Stuart used an exploratory factor analysis (EFA) to test an

instrument that measured the following scales of professionalism: (a) job autonomy; (b) societal role and impact; (c) expertise; (d) self-confidence; and (e) feeling of superiority. They found that the dimensions generated by the study were more useful to assess the degree of professionalism than individual components, such as expertise or autonomy.

Several professionalism studies conducted in the nursing profession examined the dimensions of nurses' general self-concept in connection with their profession (Cowin, 2001; Hensel, 2009). One study by Cowin (2001) used factor analysis to identify the following dimensions of professional self-concept: (a) a nurses' general self-esteem; (b) empathetic support given to another; (c) communications, defined as effectively sharing information and ideas; (d) knowledge using nursing skills and theories; (e) staff relations such as collegial relationships; and (e) leadership. These dimensions of "self-concept" were matched closely in this present study.

As mentioned in the discussion above, several researchers studied professionalism in various fields. The prior studies highlighted the importance of studying the multi-faceted area of professionalism to better understand the dimensionality and factors that have influenced this latent attribute (Cowin & Hengstberger-Sims, 2006; Haywood-Farmer & Stuart, 1990). Additionally, the prior studies indicated that the scale of professionalism varies as a function of the organizational environment (Hall, 1968).

This present study focused on the *precursors of professionalism* for these senior-level students, since the attitudes and values that students hold at the beginning of their work-life will be likely to influence the type of professionals they become later in their careers (Nyström, 2009). The model provides a lens to examine the promise of educational training – as scholars in education and ethics (Damon, 2009; Kohlberg, 1976; Pascarella & Terenzini, 1991) intended it – by exploring the professional attitudes of senior-level undergraduate students.

The CSS dataset contains many survey items that serve as good manifestations of the four constructs that make up the *precursors of professionalism*. The constructs below have been modeled in a previous study to validate their position in an overall framework of students' *precursors of professionalism* at the end of their undergraduate training, immediately before their entry into the profession (REF). In order to explore professionalism notions in senior-level undergraduate students, it is important to define the *precursors of professionalism* and the elements used to represent them.

Autonomy of Judgment

Survey items focusing on precursors such as critical thinking, analytical and problem solving abilities, general knowledge, and expertise in the discipline were identified as manifestations of the *autonomy of judgment* construct as shown in Table 2 (Appendix). Collectively, they provide an indication of students' ability to behave autonomously, once they developed expertise in their respective disciplines. The items chosen within this factor—change in analytical and problem solving, change in ability to think critically, change in general knowledge, change in knowledge of a particular field or discipline, change in preparedness for employment after college—are representative of descriptions of the "autonomy of judgment" factor in the literature (Freidson, 1985).

Desire for Expertise

Students' self-identified desire to become an authority in their discipline, desire to be recognized by colleagues for expertise in their discipline, and goals to have administrative responsibility in their chosen field were used as manifestations of students' overall *desire for expertise* as shown in Table 2 (Appendix). To represent these concepts accurately, the term

desire for expertise – rather than expertise – will be used throughout the paper. The items chosen within this factor—including the goal to become an authority in one’s field, obtain recognition from colleagues for contributing to one’s special field, and to take on administrative responsibility for the work of others—are representative of descriptions of the expertise factor in the literature (MacDonald & Ritzer, 1988).

Self-concept

For this construct, the study measured precursors such as students’ social and intellectual self-concept, leadership ability, public speaking ability, and self-understanding. These items were used as manifestations of students’ overall *self-concept* as shown in Table 2 (Appendix). These notions provided indicators for students’ superior feelings of themselves as they progress in their professionalism. The items chosen within this study—including self-confidence social, leadership ability, self-confidence intellectual, self-understanding, public speaking ability, and understanding of others—are representative of definitions of professionalism from the literature (Cowin, 2001).

Social Agency

For the *social-trustee* dimension, the study measured precursors such as students’ desire to be a leader in their community, participate in political affairs, influence social values, participate in a community action program, promote racial understanding, or help others in difficulty. These items were used as manifestations of students’ overall *social agency* as shown in Table 2 (Appendix). To represent these concepts accurately, the term *social agency* was used when referring to this element throughout the study; this is also consistent with the HERI’s terminology for these items. The items chosen to represent “social-trustee” measures—including the goal of becoming a community leader, participating in a community action program, influencing social values, helping to promote racial understanding, keeping up-to-date with political affairs, and helping others in difficulty—are representative of “social-trustee” attributes among professionals described in the literature (Freidson, 1985; Moore & Rosenblum, 1970).

The theoretical framework outlined the use of professional theory and models for understanding of business graduates’ professional attitudes. The following sections outline the conceptual basis of this study based on specific research questions and methodology.

RESEARCH QUESTIONS AND AIMS

The following is the main research question, as well as corresponding aims and hypotheses for the four facets of professionalism, as supported by the theoretical frameworks:

Are the professional attitudes measured by factor scores of business students in “autonomy of judgment,” “desire for expertise,” “self-concept,” and “social-agency” different from students in other disciplines?

Primary Aim 1

This aim is to test students for specific values espoused by the “autonomy of judgment” aspect of professionalism such as the ability to think critically based on knowledge in the discipline, in order to have responsible professional judgment. This compares business students’ scores to students in other major. The literature indicates that business education emphasizes more practitioners’ aspects of learning rather than critical thinking and autonomous judgment skills; therefore, the hypothesis is as follows:

Hypothesis 1.1: Business students will have lower scores in their “autonomy of judgment” factor of professionalism compared to students from other majors.

Primary Aim 2

This aim is to test students for specific values espoused by the “desire for expertise” aspect of professionalism, such as the intent to become an authority in one’s field and to be recognized by other colleagues in the profession. The literature indicates that the market rewards business students for “expert” knowledge such as quantitative and analytics types of skills; therefore, the hypothesis is as follows:

Hypothesis 2.1: Business students will have higher scores in their “desire for expertise” factor of professionalism compared to students from other majors.

Primary Aim 3

This aim is to test students for specific notions expressed by the “self-concept” aspect of professionalism, such as leadership, self-confidence, and public-speaking skills. The literature indicates that business students have high “self-concept” due to excessive market rewards for their technical expertise; therefore, the hypothesis is as follows:

Hypothesis 3.1: Business students will have higher scores in their “self-concept” factor of professionalism compared to students from other majors.

Primary Aim 4

This aim is to test students for specific values espoused by the “social-trustee” aspect of professionalism such as social citizenship of a professional within a community. The literature states that business education has steered away from humanistic aspects of business education, thus the hypothesis is as follows:

Hypothesis 4.1: Business students will have lower scores in their “social-trustee” factor of professionalism compared to students from other majors.

METHODOLOGY

The goal of this study was to estimate differences in the factor scores of business students and students from other academic disciplines – such as social studies, science fields, and humanities – across the dimensions of the *precursors of professionalism* model. The construct validity of these factors was established through an EFA and a CFA in a previous study testing the dimensionality of the survey items related to professionalism using two academic years 2006-2007, and 2007-2008 (REF). This process was used to confirm the hypothesized model for the *precursors of professionalism*. The prior CFA used 19 variables that were selected from the CSS survey; descriptive statistics are available in Table 1. An examination of the distribution of responses was performed to assess whether the relationship between the variables was reflective of the theoretical associations. The variables that were associated with a construct returned moderate- to high-correlations (e.g., .40 to .70) – evidence of convergent validity – and variables that were not associated with that construct yielded low correlation coefficients (e.g., .06 to .29), an indication of discriminant validity. Also the tenability of the underlying assumptions of the models for the observed and latent variables was tested (Table 2). With the exception of the variables used to measure the “autonomy of judgment” construct, all other variables met the assumptions of the factor models. Because the properties of the estimator used when fitting the factor models is robust to the observed violations of the normality assumption, the results from the “autonomy of judgment” factor were retained but should still be interpreted cautiously (Muthen & Asparouhov, 2002).

{Table 1 near here}

{Table 2 near here}

To test whether or not there were significant differences between business majors and their non-business major peers, the four individual analysis of variance (ANOVA) models were fitted to the data; one for each of the four factor scores. Although the assumptions for the CFA

were tested previously, the assumptions of the ANOVA were tested for these models as well. Although there was negative skew in the sample – mostly in the “autonomy of judgment” factor scores – the comparison were still carried out due to the large sample size (Tabachnik and Fidell; 2007) and given that the results provide important information regarding an understudied area of higher education research.

Two covariates were selected, gender, and type of institution (e.g. private or public), to test if business students’ professionalism scores varied based on these covariates. The two covariates included in this study, gender and type of college, were selected based on prior research addressing elements that influenced undergraduate business students’ responses to survey data (Browning, 2003; Carpenter, Harding, Finelli, & Passow, 2004; Knotts, Lopez, & Mesak, 2000; Lan, Windsor, McMahon, King, & Rieger).

Survey Data

The study used the College Senior Survey (CSS) collected by Higher Education Research Institute (HERI) annually at the University of California, Los Angeles (UCLA). HERI collects a nationally representative sample of graduating college seniors from over 100 baccalaureate universities annually. The survey measures students’ values, attitudes and goals, assesses post-college plans and aspirations, and studies campus issues. The response formats for the survey items varied between scales of 1-4 and 1-5, with the most common type of responses ranges from “not important” to “essential.” The data used in this study was administered to college seniors during exit interviews, at the end of the 2007-2008 academic years. The dataset has a sample of 13,063 respondents, of which 62% were females, 83% White/Caucasian, and 81% of the institutions participating were private. Students who participated were from a variety of disciplines such as social sciences, humanities, sciences, and various professional fields. Students from 2-year colleges and religious institutions were not included in the study.

Missing Data

The initial analysis of the dataset did not show an unusual percentage of missing data, accounting for less than 3.5% in all of the used variables in the study. Allison (2001) suggests that for latent variable analysis, the direct maximum-likelihood (ML) method is the preferred method for addressing missing data. Therefore, ML was used in SPSS to replace missing values, grouping variables for each of the four factors to perform the estimation, since variables within each factor are correlated and can be better estimators for missing values than using all the variables in the dataset.

RESULTS

The following paragraphs address the results of the comparison for the four constructs of the *precursors of professionalism*, interpretation of findings, and a discussion of the institutional and environmental factors influencing these results.

Results from the Four Constructs

The primary focus of this study was to assess senior-level undergraduate business students’ professionalism values “autonomy of judgment,” “desire for expertise,” “self-concept,” and “social agency” and compare them to students who completed non-business undergraduate degrees. The following discussion presents the results from testing each of the hypotheses regarding differences in average scores on the four constructs between undergraduate business and non-business students.

Autonomy of Judgment Measure

Hypothesis 1.1: Business students will have lower scores in their “autonomy of judgment” factor of professionalism as compared to students from other majors.

This hypothesis sought to determine whether business students, due to various influences not defined or measured in the study (e.g., business training, environmental influences, and personal disposition), would have lower observed scores in their “autonomy of judgment” aspect of professionalism. The results of the ANOVA indicate that the differences in “autonomy of judgment” mean factor scores across the two categories – business and non-business majors – was not significantly different from zero (see Table 3 for additional details); the magnitude of the effect of major ($\eta^2 = 0.019$) was also small. Type of institution was a significant covariate for the “autonomy of judgment” factor. In addition, business students comprised 17% of the sample and their mean factor-scores for “autonomy of judgment” were lower than 43% of their peers in college but higher than 40% of other peers, after adjusting for institutional and gender covariates. A plot of the marginal means across majors can be found in Figure 1 along with mean “autonomy of judgment” scores adjusted for sex and institution type in Table 3. The plot also shows that business students’ mean scores ranked lower in comparison with many other majors in college. Business students have lower scores, on average, than education, social sciences, physical sciences, history/political science, health professional, engineering, and undecided students, which constitute 43% of the sample. One possible explanation for this is that students with higher marginal means may have reported higher scores for items such as problem solving, critical thinking, and analytical thinking due to the natural connection of their education to these facets, while business education lends itself to more experiential methods (Crainer & Dearlove, 1999; Starkey & Tiratsoo, 2007). Future studies for this factor may create a more sensitive measure for “autonomy of judgment,” using more survey items that measure critical thinking and independence of judgment skills in college students in order to discover more significant differences between business and non-business students or between different majors.

{ Table 3 near here }

{ Figure 1 near here }

Desire for Expertise Measure

Hypothesis 2.1: Business students will have higher scores in their “desire for expertise” factor of professionalism as compared to students from other majors.

This hypothesis sought to determine whether business students, due to various influences not defined and measured in the study (e.g., business training, environmental influences, and personal disposition), would have higher observed scores in their “desire for expertise” aspect of professionalism. The results for the ANOVA indicate that “Desire for expertise” scores varied significantly for the two categories (business and non-business, Table 4). Although the differences in “desire for expertise” across the two categories was significantly different from zero ($p < 0.05$), the magnitude of the effect of major was relatively small for the factor ($\eta^2 = 0.0001$). In addition, business students comprised 17% of the sample and their mean factor-scores for “desire for expertise” were higher than 83% of their peers in college, after adjusting for institutional and gender covariates. In addition, as shown in Table 4, business students remained the highest-ranking group among all majors after including the covariates. A plot of the marginal means across majors with covariates can be found in Figure 2, along with mean scores for “desire for expertise” in Table 4. The plot also shows that business students’ mean scores ranked highest in comparison with all other majors in college. The main effect of major on the “desire for expertise” scores confirmed that there were significant differences between business and non-business students ($F(1, 13,055) = 119.2; p < 0.001$). The estimated marginal means presented in Table 4 help to illustrate the variance in “desire for expertise” scores across the majors. This finding suggests that business students are highly motivated to develop the

business expertise necessary to enter their profession. The business profession has high financial rewards for managers and executives working for corporations that are highly-profitable (Crainer & Dearlove, 1999). Bowles and Gintis (1976) have discussed the hidden language in business education, emphasizing the corporate bottom-line and the success of managers in businesses. This further suggests that business students' training may influence their attitudes and motivations toward additional expertise in the discipline. Although "expertise" is a positive professional trait, business students may desire to attain it for financial gains, rather than professional development.

{Table 4 near here}

{Figure 2 near here}

Self-concept Measure

Hypothesis 3.1: Business students will have higher scores in their “self-concept” factor of professionalism as compared to students from other majors.

This hypothesis sought to determine whether business students, due to various influences not defined or measured in the study (e.g., business training, environmental influences, and personal disposition), would have higher observed scores in terms of their “self-concept” aspect of professionalism. The results for the ANOVA indicate that “self-concept” scores varied significantly for the two categories (business, non-business, Table 5). While the differences in “self-concept” across the two categories reached the required statistical significance ($p < 0.05$), the magnitude of the effect of major was small ($\eta^2 = 0.01$). Business students comprise 17% of the sample and their mean factor-scores for “self-concept” were higher than 74% of their peers in college, but lower than only 9% of other peers, after including gender and institutional covariates. A plot of the marginal means across majors with covariates can be found in Figure 3, along with mean scores for “desire for expertise” in Table 5. The plot also shows that business students' mean scores ranked third to the highest group in comparison with all other majors in college. The test of the main effect of major on “self-concept” confirmed that there were significant differences between business and non-business students ($F(1, 13,055) = 21.54; p < 0.0001$). The estimated marginal means presented help to illustrate the variance in “self-concept” scores across the majors. Business students, on average, have higher scores than the majority of their peers from other majors. This finding suggests that business education may have more emphasis on students' leadership abilities than other majors. This was confirmed again by a survey that was administered annually by the Graduate Management Admission Council (GMAC). The survey conducts a comprehensive, global survey of employers who hire business and other students annually. In 2011, 1,509 participants representing 905 companies in 51 countries reported on their hires. Most employers reported that compared with other employees at the same job level, business students have higher abilities in learning, motivation, and leadership (General Management Aptitude Test, 2011). This significant difference in mean factor scores suggests that business students' training may influence their “self-concept” as measured in this study.

{Table 5 near here}

{Figure 3 near here}

Social Agency Measure

Hypothesis 4.1: Business students will have lower scores in their “social agency” factor of professionalism as compared to students from other majors.

This hypothesis sought to determine whether business students, due to various influences not defined or measured in the study (e.g., business training, environmental influences, and

personal disposition) would have lower observed scores in terms of their “social agency” aspect of professionalism. The results of the ANOVA indicate that “social agency” scores varied significantly for the two categories (business, non-business, Table 6). While the differences in “social agency” across the two categories reached the required statistical significance ($p < 0.05$), the magnitude of the effect of major was small ($\eta^2 = .001$). Business students comprise 17% of the sample and their mean factor-scores for “social agency” were lower than 71% of their peers in college, but higher than only 12% of other peers, after the use of gender and institutional covariates. A plot of the marginal means across majors can be found in Figure 4 along with mean “social agency” scores, in Table 6. The plot also shows that business students’ mean-factor score was lower in comparison with most majors in college. The test of the main effect being a business or non-business student confirmed that there were significant differences between business and non-business students ($F(1, 13,055) = 28.94; p < 0.001$). The estimated marginal means presented in Table 6 help to illustrate the variance in “social agency” scores across the majors. Business students, on average, have lower scores than a majority of students from other majors constituting 71% of the sample. This finding suggests that business education has low emphasis on ethical and social issues in their education as discussed by prior scholars (Khurana, 2007; Swanson & Fisher, 2009; Trank & Rynes, 2003). Business students rank lower in mean factor scores of “social agency,” than their peers in fields such as English, education, humanities, and the social sciences, but slightly higher than students in technical fields such as engineering and math (see Table 6). Although these differences between majors were not tested for statistical significance, this may further indicate that these students are being trained in a manner more similar to technical fields, such as engineers, physicists, and other physical scientists. The business curriculum’s emphasis on technical subjects, such as accounting, finance, marketing, economics, and statistics, does not allow much room for education in subjects that build critical thinking skills and ethical sensitivity (Bennis & O’Toole, 2005; Khurana, 2007). Bennis and O’Toole (2005) criticized the direction of business education and graduate business research towards scientific methods, highlighting that scientific methods cannot replace human judgment, especially in the area of ethics and morality.

{Table 6 near here}

{Figure 4 near here}

IMPLICATIONS

The interpretation of the results in this study leads to the explanation of the implications of these results for business education and the business profession. Compared to their peers—especially those who are in other social science fields—business students score higher than most in the areas of their “desire for expertise” and “self-concept” and lower in “social agency.” Students’ results in “desire for expertise” and “self-concept” show great promise in the development of their skills toward professionalism. These students are excited about their fields of discipline shown by their high scores in the “desire for expertise” factor. They also have confidence and leadership ability to succeed in their field shown by their scores in the “self-concept” factor. Their lower scores in “social agency” show that business students may be deficient in their promise to develop as full professionals. As previously noted, this study does not uncover the predictors that influence their scores, such as pre-collegiate individual characteristics, experiences and programs students joined in college, internships, parental attitudes, economic status of students, academic ability, and myriad other factors that may influence these precursors. Yet this study shows that students’ major of study is a significant factor for students’ scores, and

that business students have low scores as compared to their peers in two important areas related to professionalism: autonomy and social agency.

Moreover, Khurana (2007), Swanson and Frederick (2001), Trank and Rynes (2003) all point to the deficiencies in business education when it comes to integration of ethics and awareness of social issues within business curriculum. The overemphasis of the business curriculum on duties to shareholders rather than stakeholders may have influenced students' social agency. Colby et al. (2011) called for the overhaul of business education. These scholars proposed strategies for curriculum, teaching methods, and program arrangements that can transform undergraduate business education into a discipline that graduates professionals who serve society, as was originally intended. Additionally, Colby et al. (2011) explain that the goal of education is to develop and graduate students who have capabilities in the area of analytical reasoning, the ability and disposition to take multiple perspectives when confronting a complex decision or judgment, and the capacity to make connections of personal meaning between what one does and who one intends to become. All of these characteristics allow students to develop a personal and a professional identity. This is likely where business education fails: in the formation of a complete professional identity where students are able to integrate their expertise with social responsibility, based on their ability to perform autonomous critical thinking.

Along these lines, Colby et al. (2011) in "*Rethinking Undergraduate Business Education*" call for integrative learning for students, which requires institutional intentionality. This integrative learning requires business students to think deeply about the concepts in liberal arts subjects and knead them together with business subjects. The curriculum must be actively mixed together, which does not occur by merely adding a humanities or a social science distribution requirement to business. Colby et al. call for programmatic emphasis on social influences, where students widen their angle of vision by paying explicit attention to the effects of business on society, and, conversely, the effects of society on business.

A salient example of this type of learning can be found in a program offered at The Stern School of Business at New York University. The business school adopted a required four-course curricular sequence that addresses social influence themes. The first course focuses on the formation of students' professional responsibility and character within the place of business in the larger social context. During this first year, students also take plenary lecture series with small group discussions and written assignment that allow students to make interconnections among politics, religion, society, and business. This course, guided by professors, urges students to step back and consider the wider meaning and contexts of business as one social institution among many. This offering is a significant departure from the typical offerings found in most introductions to business classes. The second course, which students take as sophomores, covers organizational communication and its social context. Students are taught to communicate effectively with a wide array of stakeholders, learning that a corporation serves more than just its shareholders. Juniors take a third course where they study law, in addition to business and society. Students learn about the role of law in governing the conduct of business, as well as the global effects of commerce within the boundaries of international law. At the end of the undergraduate program, seniors take a capstone course entitled Professional Responsibility and Leadership. These courses require students to make thoughtful, well-informed choices about their future in business and recognize how their business roles will affect the meaning of their lives and the kinds of people they become. This process conforms to Kohlberg's (1976) theoretical framework that is based on moral development through stages of maturation allowing business students to develop in their critical thinking and ethical evaluation modeling in the four

years of college. In the Stern School of Business program, students develop a conceptual vocabulary for thinking and talking about ethical issues and choices. This series of business program courses offers theoretical and integrated experiences that require more than just distribution requirements within a program. The courses build on one another and add up to a powerfully integrated student experience. This design has an intentional structural attention to sound and responsible business education (Colby et al., 2011).

This present study confirms the need for all business programs to adopt an approach to business education that highlights the effects of this profession on society and allows students to develop a full professional identity that is embedded with the responsibility that is attached to the expertise that students develop. Before this study, scholars pointed to weaknesses of business education and to the dire consequences that these may have on our society. Their points have been made based on program observations, study of business curriculum, and corporate scandals involving business trainees (Borkowski & Ugras, 1998; Carpenter, Harding, Finelli, & Passow, 2004; Khurana, 2007; Trank & Rynes, 2003). This present study confirms that our business graduates echo the weaknesses identified by prior scholars, and this confirmation points to the significance of this investigation.

Last, this research should stimulate discussion and consideration of changes regarding the integration of interdisciplinary academic offerings in business programs with an emphasis on the social effects of business education and related ethical and philosophical issues. Although it may not be fiscally feasible to implement in all business programs in the current socio-economic climate, the continually growing research literature focused on [un]ethical business practices should serve as motivation for the business education community to adopt curricular policies that are responsive to our knowledge of the business education field.

LIMITATIONS

The first limitation of the findings of this study is related to the use of a secondary dataset and how that affects the relationship between the data and the conceptual framework brought to the data. Because the survey was designed to meet the needs of HERI, the CSS dataset imposed theoretical restrictions on modeling the latent factors of interest. For example, only three manifest variables were available to estimate the “desire for expertise” factor, although five or six items would have been recommended. In addition, not all of the survey items were strong theoretical candidates for measuring the latent factors of interest. For example, the “autonomy of judgment” factor should have a greater theoretical emphasis on students’ critical thinking and analytical and problem solving, but only two candidate variables were strong theoretical matches.

The second limitation was the potential bias of self-reported measurements, since respondents may exaggerate or underreport their responses to specific items (Creswell, 2009). Although HERI researchers could have used vignettes, or short cases, that measure students’ scores for professionalism measures objectively, they chose to include several self-reported measures of professionalism. These items consisted of statements such as “change: analytical and problem solving skills,” “rating: leadership ability,” and “change: ability to think critically,” to which the student was asked to provide an estimate of their own ability.

The third major limitation of this study was the sampling strategy combined with the observational (e.g., non-experimental) nature of the data. Because several sub-populations were heavily over-sampled in the implementation of this survey, the assumption that the data were derived from a random sample of the population of interest was not met. For example, of the institutions participating in the CSS study during the academic years ending in 2007 and 2008,

the majority of observations were drawn from private colleges. In addition to a lack of balancing of the strata, there was also substantial over-sampling at the individual level as well: 60% of the subjects in the 2007 dataset and 62% of the subjects in the 2008 dataset were female.

A final and fourth limitation is the predisposition of business students to certain professional attitudes. It is likely that students who majored in business arrived at their college or university predisposed to a focus on developing expertise and little interest in contributing to their community and society. However, students' choice of major and the norms within the business departments where students enroll might, in turn, support and nurture their natural tendencies, thereby increasing the likelihood that business students will achieve these results in their *precursors of professionalism*.

CONCLUSIONS

Business educators may need alternate approaches to business ethics education when it comes to training students to become socially responsible managers (Khurana, 2007; Swanson & Fisher, 2009; Trank & Rynes, 2003). The results of this research suggest that undergraduate business students score significantly lower in the "social agency" factor, while scoring significantly higher in "desire for expertise" and "self-concept" factors of professionalism as compared to their college peers. This present study also confirms the need for all business programs to adopt an approach to business education that highlights the influence of this profession on society. In addition, business training should allow students to develop a full professional identity embedded with the responsibility that is attached to their expertise. This is important in order for these future professionals to understand the consequences of their decisions on society and their immediate community. This research reveals that if education has effects on students' values and attitudes, then business education may not have sufficient and equitable emphasis on the four facets of professionalism, resulting in graduates that are highly focused on their own objectives, but severely less connected to societal goals.

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APPENDIX

Table 1
Descriptive data for manifest variables and covariates

Observed variable	Description	<i>M</i>	<i>SD</i>
SLFCHG04	Change: Ability to think critically	4.38	0.65
SLFCHG08	Change: Analytical and problem-solving skills	4.34	0.64
SLFCHG17	Change: General knowledge	4.34	0.60
SLFCHG19	Change: Knowledge of a particular field or discipline	4.66	0.54
SLFCHG25	Change: Preparedness for employment after college	4.20	0.74
GOAL04	Goal: Become an authority in my field	2.72	0.86
GOAL10	Goal: Having administrative responsibility for the work of others	2.58	0.85
GOAL20	Goal: Obtain recognition from colleagues for contributing to my special field	2.33	0.90
RATE23	Self-rating: Self-confidence (social)	3.59	0.91
RATE12	Self-rating: Leadership ability	3.87	0.82
RATE22	Self-rating: Self-confidence (intellectual)	3.86	0.81
RATE18	Self-rating: Public speaking ability	3.51	0.94
RATE24	Self-rating: Self-understanding	3.89	0.79
GOAL02	Goal: Becoming a community leader	2.29	0.93
GOAL21	Goal: Participating in a community action program	2.23	0.90
GOAL15	Goal: Influencing social values	2.51	0.89
GOAL12	Goal: Helping to promote racial understanding	2.26	0.93
GOAL18	Goal: Keeping up to date with political affairs	2.45	0.91
GOAL11	Goal: Helping others in difficulty	3.05	0.78
SEX	Gender of Student	1.62	-
TYPE	Type of Institution	0.31	-

Table 2
Standardized factor loadings and R² values for final CFA

Latent Factor	Observed	Description	Factor	R ²
	SLFCHG04	Change: Ability to think critically	0.9	0.8
Autonomy of judgment	SLFCHG08	Change: Analytical and problem-solving skills	0.9	0.82
	SLFCHG17	Change: General knowledge	0.79	0.62
	SLFCHG19	Change: Knowledge of a particular field or discipline	0.74	0.55
	SLFCHG25	Change: Preparedness for employment after college	0.62	0.39
	GOAL04	Goal: Become an authority in my field	0.67	0.45
Desire for expertise	GOAL20	Goal: Obtain recognition from colleagues for contributing to my special field	0.61	0.37
	GOAL10	Goal: Having administrative responsibility for the	0.66	0.44
	RATE23	Self-rating: Self-confidence (social)	0.76	0.58
Self-concept	RATE12	Self-rating: Leadership ability	0.76	0.57
	RATE22	Self-rating: Self-confidence (intellectual)	0.73	0.53
	RATE18	Self-rating: Public speaking ability	0.68	0.46
	RATE24	Self-rating: Self-understanding	0.69	0.48
	GOAL02	Goal: Becoming a community leader	0.83	0.69
Social agency	GOAL21	Goal: Participating in a community action program	0.75	0.57
	GOAL15	Goal: Influencing social values	0.73	0.54
	GOAL12	Goal: Helping to promote racial understanding	0.69	0.47
	GOAL18	Goal: Keeping up to date with political affairs	0.66	0.44
	GOAL11	Goal: Helping others in difficulty	0.64	0.41

* All factors loadings significant at $p < 0.001$

Table 3
 2008 CSS Population Marginal Means and Standard Errors for “Autonomy of Judgment”
 Factor with Covariates, Sorted by Means

	<i>N</i>	<i>M</i>	<i>S.E.</i>
<i>Business vs. All Others</i>			
Business	2,227	-0.040	0.022
All Others	10,836	-0.021	0.011
Agriculture	39	-0.270	0.190
Other Non-Technical	1,125	-0.220	0.034
Fine Arts	707	-0.190	0.049
English	593	-0.140	0.058
Biological Sciences	1,143	-0.100	0.038
Humanities	1,093	-0.080	0.040
Mathematics/Statistics	224	-0.077	0.074
Other Technical	241	-0.051	0.077
Education	793	0.001	0.047
Social Sciences	2,174	0.019	0.026
Physical Sciences	296	0.020	0.067
History/Political Science	1,103	0.059	0.035
Health Professional	567	0.110	0.087
Engineering	730	0.200	0.043
Undecided	8	0.320	0.380

Note: All other majors are sorted by marginal mean scores.

Table 4
 2008 CSS Population Means and Standard Deviations for “Desire for Expertise” Factor with
 Covariates, Sorted by Means

	<i>N</i>	<i>M</i>	<i>S.E.</i>
<i>Business vs. All Others</i>			
Business	2,227	0.250	0.022
All Others	10,836	-0.018	0.011
Mathematics/Statistics	224	-0.270	0.073
Undecided	8	-0.140	0.380
English	593	-0.130	0.058
Other Technical	241	-0.110	0.076
Physical Sciences	296	-0.100	0.066
Agriculture	39	-0.088	0.190
Humanities	1,093	-0.066	0.040
Social Sciences	2,174	-0.053	0.026
Biological Sciences	1,143	-0.016	0.038
Education	793	0.041	0.046
Health Professional	567	0.052	0.087
Engineering	730	0.065	0.043
Other Non-Technical	1,125	0.079	0.034
Fine Arts	707	0.086	0.049
History/Political Science	1,103	0.100	0.035

Note: All other majors are sorted by marginal mean scores.

Table 5
 2008 CSS Population Means and Standard Deviations for “Self-concept” Factor with
 Covariates

	<i>N</i>	<i>M</i>	<i>S.E.</i>
<i>Business vs. All Others</i>			
Business	2,227	0.130	0.022
All Others	10,836	0.013	0.011
Other Technical	241	-0.300	0.076
Fine Arts	707	-0.150	0.048
Health Professional	567	-0.110	0.086
Physical Sciences	296	-0.110	0.066
Agriculture	39	-0.099	0.180
Mathematics/Statistics	224	-0.030	0.073
Biological Sciences	1,143	-0.026	0.037
Engineering	730	-0.020	0.043
Social Sciences	2,174	0.008	0.026
Education	793	0.042	0.046
English	593	0.042	0.057
Other Non-Technical	1,125	0.090	0.034
Humanities	1,093	0.094	0.039
Undecided	8	0.240	0.370
History/Political Science	1,103	0.260	0.034

Note: All other majors are sorted by marginal mean scores.

Table 6
 2008 CSS Population Means and Standard Deviations for “Social Agency” Factor with
 Covariates

	<i>N</i>	<i>M</i>	<i>S.E.</i>
<i>Business vs. All Others</i>			
Business	2,227	-0.140	0.022
All Others	10,836	-0.003	0.011
Other Technical	241	-0.660	0.075
Physical Sciences	296	-0.450	0.065
Mathematics/Statistics	224	-0.440	0.072
Agriculture	39	-0.350	0.180
Engineering	730	-0.320	0.042
Health Professional	567	-0.140	0.085
Fine Arts	707	-0.079	0.048
Biological Sciences	1,143	-0.069	0.037
Other Non-Technical	1,125	-0.017	0.033
Undecided	8	-0.017	0.370
English	593	0.018	0.057
Humanities	1,093	0.090	0.039
Education	793	0.120	0.045
Social Sciences	2,174	0.230	0.026
History/Political Science	1,103	0.400	0.034

Note: All other majors are sorted by marginal mean scores.

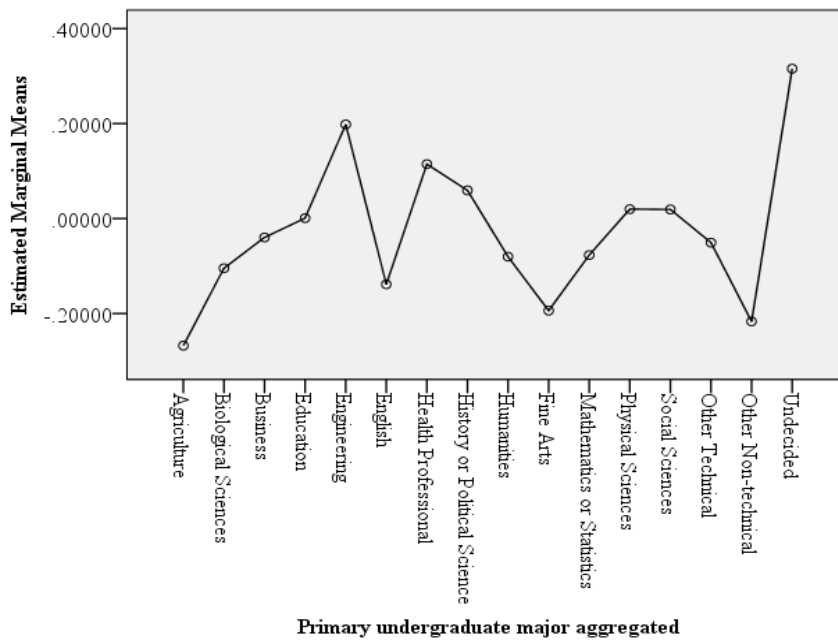


Figure 1. Marginal Means for “Autonomy of Judgment” Construct with Covariates.

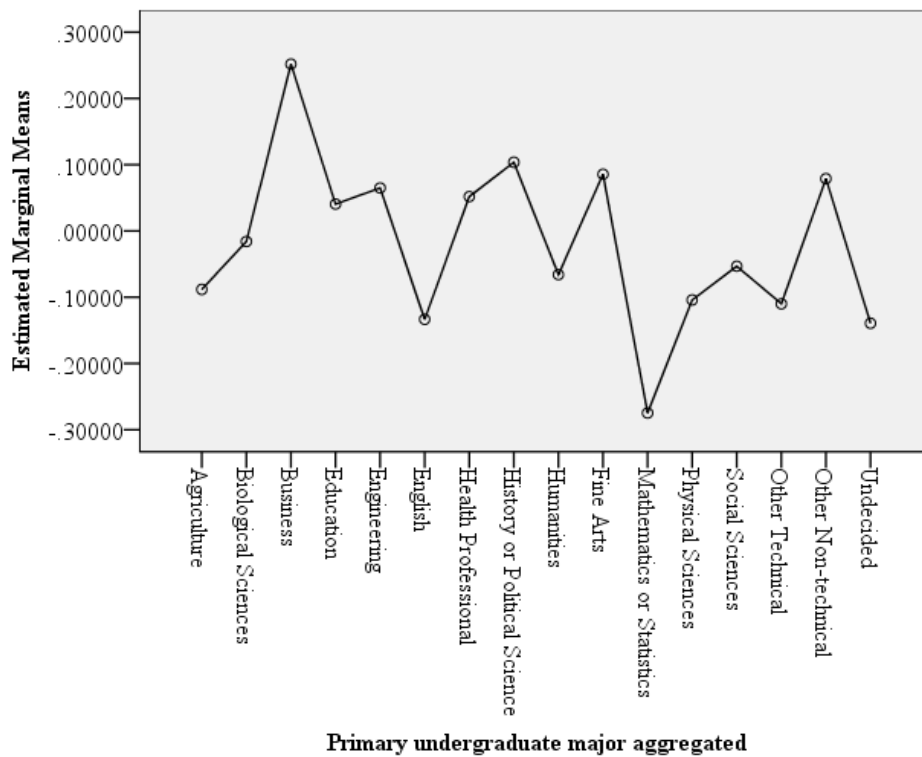


Figure 2. Marginal Means for “Desire for Expertise” Construct with Covariates.

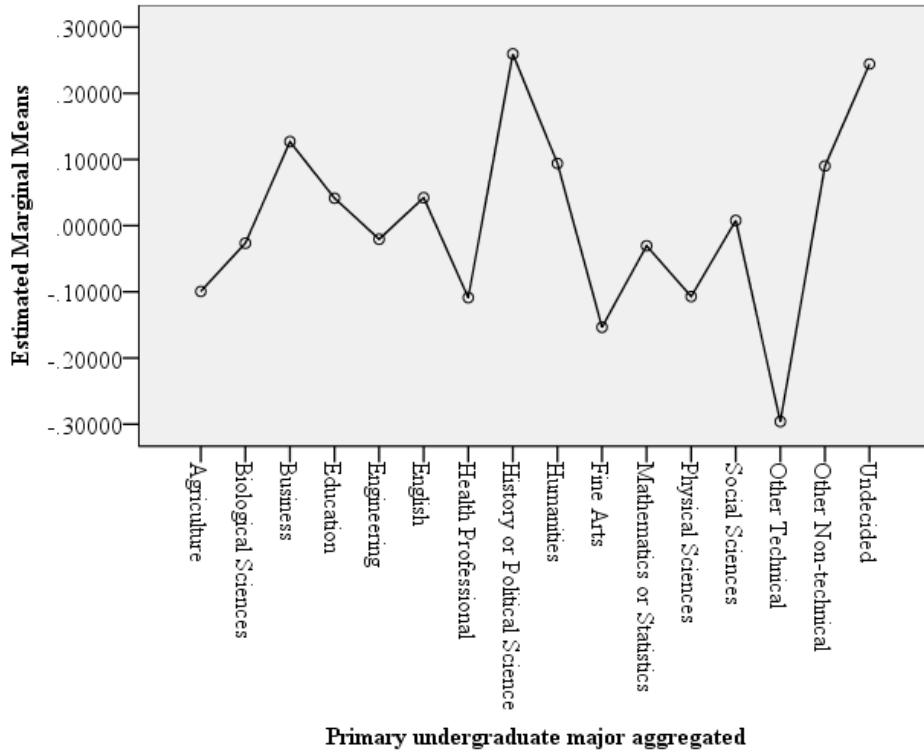


Figure 3. Marginal Means Across Majors for “Self-concept” Construct with Covariates

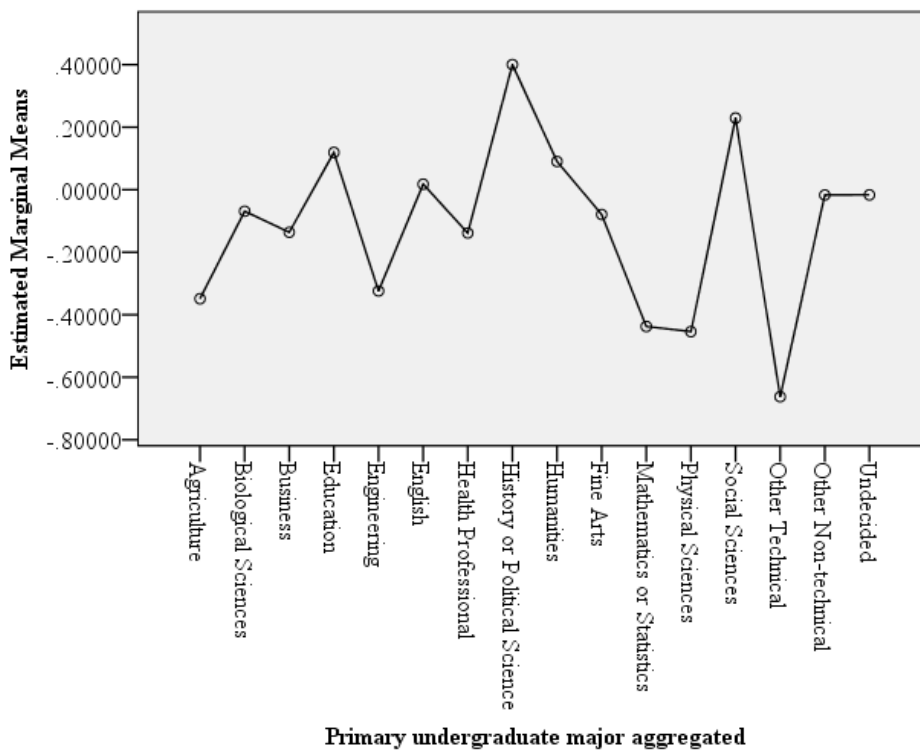


Figure 4. Marginal Means Across Majors for “Social Agency” Construct with Covariates.