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ABSTRACT

"Professional commitment" has been defined as "one's attitude toward one's profession or vocation." This study developed and tested a model to predict the development of professional commitment in students by examining the qualities of the college experience that may lead to that commitment. Factors such as background and demography, parents' occupations, employment status, social and academic integration were also considered. A sample of 408 first-year pharmacy students (the entire first-year class at one university) were surveyed by telephone. Usable results were received from 280 students (69 percent). The typical student in the sample was female (62 percent), Caucasian (55 percent), and 21-22 years of age (41 percent). The study found that the model developed and tested in the study explained 40 percent of the variance in students' levels of professional commitment after almost 1 year of pharmacy school. Clearly, the students' experiences in school influenced their commitment beyond that associated with their individual background characteristics. Students with higher levels of academic development, faculty interaction, and peer group interaction indicated higher levels of professional commitment at the end of their first year of pharmacy school. The study recommended that programmatic efforts aimed at increasing opportunities for student-faculty interaction be increased. Examples include mentoring and advising programs, independent research, and special projects to increase student-faculty interaction. (Contains 35 references.)

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**Professional Commitment: An Analysis of Students and Alumni**

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## **Professional Commitment: An Analysis of Students and Alumni**

### **Introduction**

Student attitudes have changed over the past fifteen years. Increasingly, students view college as a place to obtain employment skills. Students' personal value showing the strongest upward trend over recent years is that of "being very well off financially" and the personal value showing the greatest decline is "developing a meaningful philosophy of life" (Astin, Green, & Korn, 1987). Students, now more so than ever, directly link college to employment. Concomitantly, career or professional commitment is becoming an increasingly important topic of discussion for both employers and educators. For example, the American Association of Colleges of Pharmacy in their recent background papers on curricular revision, call for specific student outcomes, such as professional identity or commitment. Professional commitment may be of particular concern for pharmacy educators as lack of commitment could result in inadequate manpower pools, inferior quality of pharmacy services provided, or professional stagnation (Noel, Hammel, & Bootman, 1982; Wolfgang, 1988; Wolfgang & Ortmeier, 1993).

Professional commitment has been defined as "one's attitude toward one's profession or vocation" (Blau, 1988, p.289) and is one of the six characteristics of ideal professionals (Kerr, Von Glinow, & Schriesheim, 1977). This construct is separate and distinct from organizational commitment or job

satisfaction. It refers specifically to the strength of one's motivation to work in a chosen career role (Blau, 1985).

While there has been some work examining the development of professional commitment in the workplace (Blau, 1985, 1988) and research examining professional commitment in students (Rascati, 1990, Wolfgang & Ortmeier, 1993) there has been little work done examining the qualities of the college experience that may lead to the development or enhancement of professional commitment in students. This study develops and tests a model to predict the development of professional commitment in students.

### **Conceptual Framework**

The model guiding this study is based on Tinto's (1975, 1987) seminal work on institutional departure. His student integration theory suggests that student attrition is a longitudinal process that results from interactions between the student and members of the institution, such as faculty and peers. Tinto suggests that student persistence is a result of the match or "fit" between student characteristics and the institutions's academic and social characteristics and systems. The key constructs in Tinto's model are social and academic integration. Students' match with the institution, or integration with its social and academic characteristics, in turn, shapes the students' commitment to the institution itself, and to the goal of college completion. The stronger or greater the levels of goal and institutional commitment, the greater the probability of the student's persistence to graduation.

Tinto's student integration model has been successfully employed by other researchers to study a variety of student outcomes or changes other than attrition (Terenzini & Wright, 1987; Terenzini, Theophilides, & Lorang, 1984; Smart & Pascarella, 1986). For example, Terenzini et al. (1984) reported that college experiences such as contact with faculty, a dimension of students' levels of social and academic integration, positively affected students' self-reported personal development and growth. Professional commitment is an aspect of students' personal development. It is reasonable, therefore, to suggest that these same experiences of social and academic integration may also modify or impact levels of student professional commitment, as they have been found to modify student personal development.

Alternate models of student persistence, development and change (Weidman, 1989; Bean, 1980, 1985,) include the continued influence of noncollege factors such as friends, family and employers, on student persistence, development and change. As noted by Cabrera, Castaneda, Nora, and Hengstler (1992), a major gap in Tinto's (1975, 1987) theory and research associated with Tinto's theory is the exclusion of these external factors. Professional education is closely interwoven with the actual practice of the profession (licensing, board exams, continuing education, etc.). It is therefore reasonable to expect that outside forces such as pharmacists' supervisors or employers may affect student change or development.

The model guiding this study is diagramed in figure 1 and describes a process whereby students' levels of professional commitment are affected or influenced by three sets of variables; individual background characteristics, employment status, and academic and social integration. Each set of independent variables will be described.

Individual background characteristics includes the respondents' gender, ethnicity, age, grade point average, family socioeconomic scale, and parents' occupation. Individual characteristics such as these have been found to be related to professional commitment in previous studies (Blau, 1985) and are included in many college impact models (Tinto, 1975, 1987; Bean, 1980, 1985; Weidman, 1989). These characteristics have been shown to be significantly related to student goal commitment, and students' levels of social and academic integration (Nora, Attinasi, & Matonak, 1990; Stage, 1988, 1989).

Parents' occupation may be uniquely relevant to the development of students' professional commitment. It has been stated that parents' occupations are an available and important role model for students' educational and occupational goal formulation (Sewell, 1971; Sewell & Shah, 1971). Parents have the opportunity to influence not only the student's choice of career, but his or her motivation to complete the studies required to pursue the career. For example, having parents or relatives that are pharmacists has been found to influence career

choice and the early stages of socialization of pharmacy students (Hatoum & Smith, 1987).

Employment status refers to whether or not the student has a job, and if the job is relevant or related to his or her academic major. It has been suggested that college student employment offers the student another opportunity for learning. The students' supervisors acts as teachers in terms of discipline and appropriate job behavior (McKenzie, 1981). College employment may be particularly valuable for students enrolled in professional programs such as nursing, architecture, or social work. Employment that is relevant or related to students' academic majors may increase their interest in or commitment to their chosen academic program and career. Academically relevant work has been found to have a small but significant effect on student career choice in a study examining careers in science (Pascarella & Staver, 1985).

Whatever the real impact, students perceive jobs that are relevant to their academic major to be better than jobs unrelated to their academic major (Hammes & Haller, 1983). For example, one student says by picking his jobs carefully, "I can incorporate my school work into my other work". (Manning, 1993, p.2)

Social and Academic Integration refers to the students' level of integration or "fit" with the institution's social and academic systems. This concept of social and academic integration has been found to be integral to theories and studies

on student persistence and development (Tinto, 1975, 1987; Bean, 1980, 1985; Pascarella, 1985; Weidman, 1989). Measures of social integration include peer group interaction and out-of-class interactions with faculty. Academic integration refers to the students' intellectual development. Measures of academic integration include the students' levels of satisfaction with their intellectual development.

The purpose of this study is to test the professional commitment model described on a sample of students enrolled in a professional academic program to determine the predictive validity of the model.

### **Methodology**

A survey instrument was developed to collect data relevant to the research question. The survey included questions on the demographic and background characteristics of the respondents, and characteristics of students' employment, if any. The second section of the survey included items designed to assess students' college experiences and is an unmodified replica of Pascarella and Terenzini's (1980) instrument used to determine students' levels of social and academic integration. The content and predictive validity of the items have been thoroughly documented by Pascarella and Terenzini (1983) and others (Pascarella & Chapman, 1983, Pascarella, Duby & Iverson, 1983, Nora, 1987). Specifically, questions were included to measure the level of peer group interaction, interactions with faculty, students' satisfaction with their academic and intellectual development,



and students' perceptions of faculty concern for student development and teaching. Five items were included in the peer group interaction scale and were for example, "Since coming to this university, I have developed close personal relationships with other students" and "My interpersonal relationships with other students have had a positive influence on my intellectual growth and interest in ideas." The faculty interaction scale was comprised of seven items, examples of which are "My nonclassroom interactions with faculty have had a positive influence on my career goals and aspirations" and "I am satisfied with the opportunities to meet and interact informally with faculty members." The third integration scale was academic development and was comprised of five items which measure students' satisfaction with their intellectual development. Two examples of the items are "I am satisfied with the extent of my intellectual development since enrolling in this university" and "My interest in ideas and intellectual matters has increased since coming to this university." The fourth and final integration scale was comprised of four items that measured faculty concern for student development and teaching, and included items such as "Few of the faculty members I have had contact with are generally interested in students." The final section of the survey included items designed to measure students' levels of professional commitment and is a modified version of Blau's (1985, 1988) career commitment scale. His series of eight questions has been shown to be a reliable and

valid measure of career commitment. Modified by Rascati (1990), the items have been proven to be a reliable and valid instrument for the study of career commitment of pharmacy students (Wolfgang & Ortmeier, 1993) and pharmacists (Lee & Fjortoft, 1993). The items in the final two sections employed a five-point likert scales to measure students' levels of agreement with the individual item statements. The items in these two sections were subjected to principal component factor analysis, followed by a reliability analysis of the factors. The factor structures and coefficient alphas for the resulting composite variables are listed in Table I. The survey instrument is available from the authors upon request.

The survey was administered late in the spring semester to all enrolled first year pharmacy students from three selected colleges of pharmacy. The colleges of pharmacy were from varying geographic locations, represented both private and public control, and represented both academic degree orientations currently available in pharmacy education (the 5-year baccalaureate degree or the 6-year entry-level doctor of pharmacy degree). Total number of students in this population pool was 408.

Multiple regression was used to test the predictive validity of the model. Two analyses were conducted. The first equation included only the student background characteristics and employment characteristics. The second equation added the in-college experiences measuring students' levels of social and

academic integration: peer group interaction, faculty interaction, academic development, and faculty concern for student development and teaching. Change in  $R^2$  was equated to determine if the in-college experiences significantly increased the proportion of variance explained. Statistical significance for identifying important parameters in the model was established a priori at .05 due to the sample size.

### Results

Usable survey results were received from 280 students providing a response rate of 69 percent. The typical student in the sample was female (62%), Caucasian (55%), and 21-22 years of age (41%). A complete description of the sample is in Table II. Means and standard deviations of the four social and academic integration scales and the professional commitment scale are in Table III.

The first equation regressed professional commitment on the individual background characteristic: gender, ethnicity, age, parents occupation (health related or nonhealth related) student employment status (not working, relevant work, nonrelevant work). The set of independent variables were significant in predicting professional commitment, but explained only 8% of the variance in professional commitment ( $R^2=.08$ ,  $F=2.56^*$ ,  $DF=9,270$ ). The second equation regressed professional commitment on the independent variables from the first equation, and added the social and academic integration scales: peer group interaction, faculty interaction, academic development, faculty concern for student

development and teaching. The proportion of explained variance increased to 40% ( $R^2=.40$ ,  $F=13.45^*$ ,  $DF=13,266$ ). The change in  $R^2$  was significant indicating that the inclusion of the social and academic integration scales significantly increased the amount of explained variance.

The results of the regression equations are described in Table IV. The beta weights for the second equation indicate that the scale academic development, which measured students' satisfaction with their intellectual development, was more than twice as powerful in predicting professional commitment than the second largest beta weight: faculty interaction. Peer group interaction also indicated a positive and significant relationship to students' levels of professional commitment. The only student background characteristic that was significant was family socioeconomic scale (SES). The negative relationship indicates that students with lower family SES are more likely to be more committed to the profession than students with higher family SES.

### **Conclusion and Implications**

The model developed and tested in this study explained 40 percent of the variance in students' levels of professional commitment after almost one full year of pharmacy school. Tinto's constructs of social and academic integration have utility in explaining the development of student professional commitment. Clearly, the experiences of students during that first year of pharmacy school positively affected the development

of professional commitment beyond that associated with their individual background characteristics. Students with higher levels of academic development, faculty interaction, and peer group interaction indicated higher levels of professional commitment at the end of their first year of pharmacy school. What this study did not address however, is the continued development of professional commitment throughout pharmacy school. Does faculty interaction continue to positively affect professional commitment for the duration of pharmacy school, or does the impact of faculty interaction occur early and then level off? Terenzini, Theophilides and Lorang (1984) found that changes in student personal development continue to increase throughout students' college careers. The continued development of professional commitment in students throughout their college careers needs continued study.

The only student background characteristic that was significant in predicting professional commitment was family socioeconomic scale (SES). Students from lower income backgrounds were more committed to the profession than students from higher income brackets. This may be more a result of their individual motivation than family SES.

Employment, relevant to pharmacy or not relevant to pharmacy, had no effect on students' levels of professional commitment. It has been suggested that students employed in jobs relevant to their academic major have opportunities to interact with positive socializing forces such as their employers and work

colleagues. One would expect that this interaction would affect the student's level of professional commitment. The results of this study do not support that conclusion. Due to the variability in types and quality of pharmacy services offered, it may be that pharmacy students who work in the profession while attending pharmacy school are subjected to inconsistent socialization or are observing incompatible or conflicting behaviors, beliefs and values from both formal and informal sources due to the absence of uniformity or agreement among the major socializing forces (Manasse, Stewart & Hall, 1975). In other words, pharmacy students working in pharmacy are receiving conflicting messages from their employers and faculty. Students may not perceive that knowledge and skills imparted during their college education are being used in practice by their employees. This situation may be unique for pharmacy students. Other professional students may indeed increase their level of professional commitment by working in a job that is relevant to their academic major. However, before one dismisses the relationship between academically-related work and professional commitment, this model needs to be tested on samples of students enrolled in varying professional programs such as architecture, nursing or social work.

It is abundantly clear from this study, and the body of existing evidence on the positive influence of student/faculty interaction, that programmatic efforts aimed at increasing opportunities for student/faculty interaction will benefit the

student. Mentoring and advising programs, or independent research or special project activities are a few examples of programmatic and curricular changes that can be developed to increase student faculty interaction.

To test this study's conclusions, similar data measuring professional commitment was collected from practicing pharmacists. The items assessing professional commitment were identical to the items used in the student survey with minor modifications of verb tense. The sample included pharmacists with the baccalaureate degree (BS) in pharmacy and pharmacists with the doctor of pharmacy degree (Pharm.D.). There are major differences in these two degree programs. One difference is that the Pharm.D. program includes a full calendar year of clinical rotations. These rotations consist of a small group of students working daily with a faculty preceptor. The additional year of coursework also allows the student continued opportunity for his or her intellectual development. Secondly, the Pharm.D. program includes a greater number of courses in which lectures and recitations are delivered by pharmacy practice faculty and tests are graded by faculty (not teaching assistants). The results indicated that BS pharmacists were less committed to the profession than the Pharm.D. pharmacists (BS mean=3.26, st.dev.=.93, N=158, Pharm.D. mean=3.52, st.dev.=.82, N=172). While comparisons cannot be made to the student sample, this data supports the conclusions that academic programming which allows for small group student/faculty interaction enhances professional

commitment. It also suggests that the additional year of coursework may have enhanced students' levels of satisfaction with their intellectual or academic development, thereby increasing level of professional commitment.

Students are now coming to college with concrete career goals and expectations. Educators in professional programs have the added responsibility of socializing students into a profession. Part of that socialization process is the development of professional commitment. The results of this study suggest that the in-college socializing forces of faculty and students, are the important influences on the development of students' professional commitment. Educators should be aware of the importance of and develop programs that increase constructive student/faculty interaction.



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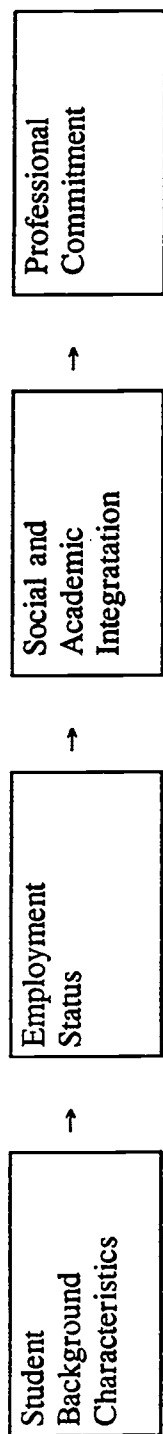


Figure 1. Model of development of student professional commitment

**Table 1. Variable Definitions**

<b>Variable Name</b>	<b>Definition</b>
<b>Gender</b>	<b>Coded 0 = male, 1 = female</b>
<b>Ethnicity</b>	<b>Coded R1 = white, R2 = black/Hispanic/other, Omitted group = Asian</b>
<b>Age</b>	<b>Age at time of survey completion</b>
<b>GPA</b>	<b>Composite variable including prepharm GPA and Fall Semester P-1 year GPA. Coefficient alpha = .60</b>
<b>SES</b>	<b>Student's family socioeconomic status. Composite variable including family income, mother's education and father's education. Coefficient alpha = .68</b>
<b>Parent's occupation</b>	<b>Coded 0 = nonhealth, 1 = health</b>
<b>Nonrelevant work</b>	<b>Coded 0 = not working or relevant work, 1 = nonrelevant work</b>
<b>Relevant work</b>	<b>Coded 0 = not working or nonrelevant work, 1 = relevant work</b>
<b>Peer group</b>	<b>Composite variable of 5 items measuring students' level of peer interaction. Coefficient alpha = .82</b>
<b>Faculty interaction</b>	<b>Composite variable of 7 items measuring students' level of faculty interaction. Coefficient alpha = .87</b>
<b>Academic development</b>	<b>Composite variable of 5 items measuring students' satisfaction with academic and intellectual development. Coefficient alpha = .80</b>
<b>Faculty concern</b>	<b>Composite variable of 4 items measuring students' perception of faculty concern for student development. Coefficient alpha = .71</b>
<b>Commitment to Pharmacy</b>	<b>Composite variable of 8 items measuring students' levels of professional commitment. Coefficient alpha = .87</b>

**Table II. Description of the Sample**

<b>N = 280</b>	<b>N (%)</b>
<b>Gender</b>	
Male	107 (38.2)
Female	173 (61.8)
<b>Ethnicity</b>	
White	153 (54.6)
Black/Hispanic/ Other	29 (10.4)
Asian	98 (35.0)
<b>Age</b>	
19-20	30 (10.8)
21-22	116 (41.5)
23-24	56 (20.0)
25-26	27 (9.7)
27-30	24 (8.6)
31-35	12 (4.2)
36-50	15 (5.4)
<b>Parents Occupation</b>	
Nonhealth	235 (83.9)
Health	45 (16.1)
<b>Employment</b>	
Not working	96 (34.3)
Non relevant work	58 (20.7)
Relevant work	126 (45.0)

**Table III. Means and Standard Deviations of Academic and Social Integration Scales and Professional Commitment Scale**

<b>Variable</b>	<b>MEAN</b>	<b>Std Dev</b>
<b>Peer group</b>	<b>3.91</b>	<b>.684</b>
<b>Faculty interaction</b>	<b>2.97</b>	<b>.746</b>
<b>Academic development</b>	<b>3.33</b>	<b>.762</b>
<b>Faculty concern</b>	<b>2.76</b>	<b>.774</b>
<b>Commitment to pharmacy</b>	<b>3.96</b>	<b>.691</b>

**Note:** Scales ranged from 1 to 5, with 5 indicating the highest level.

Table IV. Results of Regression Analysis on Professional Commitment

Independent Variables	B	$\beta$	B	$\beta$
Gender	-.004	-.003	.008	.006
White	-.216*	-.156*	-.107	-.077
Black/Hispanic/other	.064	.028	.036	.016
Age	-.015	-.107	-.013	-.091
GPA	-.045	-.055	-.072	-.088
SES	-.029	-.033	-.097*	-.111*
Parent's occupation	-.060	-.032	.129	.069
Nonrelvant work	-.303*	-.178*	-.138	-.081
Relevant work	-.184*	-.133*	-.099	-.072
Peer group			.122*	.121*
Faculty interaction			.151*	.163*
Academic development			.405*	.448*
Faculty concern			.039	.045

$R^2 = .08$	$R^2 = .40$	$\Delta R^2$
Df = 9,270	Df = 13,266	F = 36.36*
F = 2.56*	F = 13.70*	Df = 4,266

\*significant at the .05 level