INSTITUTIONAL, INDIVIDUAL, AND SOCIAL
PSYCHOLOGICAL INFLUENCES ON THE DEVELOPMENT OF
STUDENT TEACHERS' PROFESSIONAL IDENTITIES:
A STATUS ATTAINMENT APPROACH

by

DAVID MANDZUK

A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

Faculty of Education
University of Manitoba
Winnipeg, Manitoba

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ABSTRACT

The purpose of this study is to use a status attainment approach to empirically examine the professional socialization of student teachers. In order to do this, a theoretical model has been constructed to guide the investigation of student teachers' professional identities. More specifically, the study examines the effects of various university and social background, institutional integration, individual social psychological, and academic attainment variables on the commitment to learning and commitment to teaching of student teachers.

The study was conducted in a faculty of education at a large Western Canadian university and is based on data collected from two samples of student teachers--one in 1987 and the other in 1992. In each year, a stratified random cluster sampling technique was used to select students who would receive questionnaires. In all, 562 students completed the questionnaire which asks students about cognitive and affective aspects of their programs, personal information such as educational aspirations and socioeconomic status, and their identities as future teachers. Using an incremental model building approach, the statistical analyses involves the calculation of both the zero order correlations and the effect parameters for the 19 variables in the model.

The findings suggest that, although exogenous variables

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such as years of university, age, gender, and paid employment, are found to have significant effects, the social psychological variables included in the model are more strongly related to the two outcome variables. More specifically, interaction with professors, positive affect, cognitive demands, and motivation are found to have significant effects on commitment to learning while interaction with students and motivation are found to have significant effects on commitment to teaching. This suggests that positive interactions with professors, warm, demanding environments, and high motivation are important prerequisites for developing a commitment to learning while positive interactions with university peers and high motivation are important prerequisites for developing a commitment to teaching. In other words, the findings of this study confirm that student teachers' professional identities are a product of both their individual attributes as well as the experiences they have within faculties of education.

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CHAPTER 1

INTRODUCTION TO THE STUDY

THE PROBLEM

The quality of public education in North America has come under increasing criticism in recent years from parents, business groups, and academics. Reports published in the United States by the Carnegie (1986) and Holmes groups (1986), the National Commission on Excellence (1981), the National Governors' Association (1986), and the Twentieth Century Fund (1983) have all confirmed what was already suspected--that students are less engaged in the learning process and are achieving less than students did a few decades ago.

Unfortunately, the quality of public education in Canada does not seem to fare any better. The Federal Steering Group on Prosperity's report (1992) has emphasized the need for a stronger learning culture and The Economic Council of Canada (1992) has stated that "educational success in fostering cognitive achievement has stagnated, at best, over the last two or three decades and...it may, in fact, have declined" (p. 23). The Canadian public's perceptions of our schools do not appear to be any more positive. A recent Angus Reid/Southam News poll found that, of the 1,507 people surveyed, over 46 percent believed that the quality of education was worse than it was 25 years ago.

A similar poll conducted in 1992 by Gallup Canada found that 56 percent of those surveyed were dissatisfied with the state of public education. Lewington and Orpwood (1993, p. 3) suggest that "the impression left by [these] and other public opinion surveys on education is that Canadian schools are in a free-fall descent, doing little or nothing to improve quality."

Along with this increasing criticism of our public schools has come increasing scrutiny of teachers and the institutions that are charged with their education. Critics such as Adler (1977), Kramer (1991), and Nikiforuk (1993) have argued that teachers are less academically able, less intellectual in their approach to learning, and less committed to their professional roles than both their counterparts in the past and other professionals. In fact, they suggest that, in order to improve the general quality of education, the quality of teachers and their professional preparation must also be dramatically improved. Before this can happen, however, what is needed is a thorough understanding of how faculties of education operate and an appreciation of the different perspectives on how student teachers are socialized.

Within this context, the induction perspective contends that the professional socialization of students occurs mainly within professional schools (see Berliner, 1988; Kramer, 1991; Lortie, 1975; Merton, 1957). In other words,

an underlying assumption of this perspective is that the transformation of students into full-fledged professionals results from university programs that are designed to impart the skills and knowledge of professions.

The reaction perspective, on the other hand, contends that the social background characteristics and social psychological dispositions of students play a more important role than institutional factors in the professional socialization process (see Becker, Geer, Hughes, & Strauss, 1961; Britzman, 1986). In other words, reactionists have argued that factors such as age, gender, socioeconomic background, and motivation are critical elements in the fashioning of students' professional identities.

In recent years, a synthetic perspective on how students are socialized into their respective professions has been developed. Nias (1986) and Simpson (1979) have argued that it is neither the characteristics of professional schools nor the characteristics of individual students alone that account for differences in students' professional identities. They have suggested that the induction and reaction perspectives are actually "ideal-types" or extreme views of how students are socialized; therefore, they have argued that the usefulness of ideal-types in examining the professional socialization process may be limited. Moreover, reactionists such as Nias (1986) and Simpson (1979) have argued that it is the interaction of

institutional and individual factors through a variety of
social psychological processes that explains differences in
the ways that students are socialized into their respective
professions.

Although each of these views has been recognized in the
literature on professional socialization, there is little
empirical evidence to support one view over the others.
Furthermore, there is even less evidence to suggest which
view may be most relevant to the teaching profession. Of
the three views, however, the synthetic perspective has the
most intuitive appeal and appears most likely to accurately
describe the professional socialization process--therefore,
the objective of this study is to assess the degree to which
this perspective can help us understand the professional
socialization of student teachers in a faculty of education.
In order to do this, a theoretical model has been
constructed that includes a number of university background,
social background, institutional integration, individual
social psychological, and academic attainment variables as
well as two measures of professional identity. More
specifically, the university background variables examined
are years of university, previous degree, program, and
number of credit hours; the social background variables
examined are gender, age, father's occupation, father's
education, mother's education, and paid employment; the
institutional integration variables examined are interaction

with professors, interaction with students, cognitive demands, and positive affect; the individual social psychological variables examined are motivation and academic self-concept; the academic attainment variable examined is grade point average; and the two professional identity variables examined are commitment to learning and commitment to teaching.

By testing the direct and indirect effects of these variables on professional identity and by including an expanded conceptualization of this important outcome variable, this study is expected to contribute in general to an understanding of professional socialization and, in particular, to a greater understanding of the professional socialization of student teachers. Keeping in mind the three perspectives just introduced, this study is guided by the following question: What effects do the institutional, individual, and social psychological influences have on the professional identities of student teachers?

In the remaining part of this chapter, the study is introduced by examining this question in terms of the literature on status attainment, professional socialization, and professional identity. In the first section, the literature on status attainment is reviewed so that readers will understand how this study follows a status attainment approach. Particular emphasis is placed on the social psychological variables that represent students' educational

experiences within faculties of education. In the second section, the three perspectives outlined in the introduction are described more fully in order to provide a rationale for choosing a synthetic perspective for this particular study. In the third section, professional identity is defined and a unique conceptualization of this dependent variable is proposed. Later in the chapter, the strengths and limitations of the study are discussed, and finally, an overview of the dissertation is presented.

Status Attainment

Research on status attainment originated with the seminal work on occupational attainment conducted by Blau and Duncan (1967). Their classic study of American males provided empirical support for the hypothesis that academic attainment plays a central role in the transmission of status from one generation to another (see Campbell, 1983; Otto and Haller, 1979). However, in the late 1960s and early 1970s, Sewell, Hauser, and their colleagues at the University of Wisconsin, developed a social psychological model of status attainment that extended Blau and Duncan's (1967) model by linking socioeconomic status and mental ability to academic and occupational attainment by means of mediating social psychological variables (see Otto & Haller, 1979; Sewell, Haller, & Ohlendorf, 1970; Sewell, Haller, & Portes, 1969; Sewell & Hauser, 1980). This research showed that the influence of significant others, such as parents,

teachers, and peers, as well as students' own attitudes and dispositions, intervened between students' background characteristics and their later attainments. Since that time, hundreds of studies have expanded the Wisconsin model as a basis for further research on academic and occupational attainment.

In synthesizing the status attainment literature, Campbell (1983) has suggested that any research based on the Wisconsin model attempts to explore both ascription and achievement. Ascription refers to the gaining of social position or social status as allocated by birth or as a result of family background; in other words, it describes a process that involves factors over which people have no control and which cannot be readily altered by individual achievement (see Abercrombie, Hill, & Turner, 1984, p. 13; Jary & Jary, 1991, p. 26). Achievement, on the other hand, refers to the gaining of social position or social status as an outcome of personal effort in open competition with others; that is, it describes a process that involves factors over which people *do* have control (see Abercrombie et al., 1984, p. 13; Jary & Jary, 1991, p. 3).

In general, ascription and achievement represent distinct processes--some positions, such as gender roles, are ascribed while other positions, in which specific skills or talents are involved, are subject to open competition. In spite of the distinct nature of these processes, however,

there are often ascriptive elements underlying achieved statuses; for example, although peoples' educational achievements may be primarily a product of their own efforts, they are also often affected by the inherent advantages or disadvantages of their family backgrounds. In exploring the effects of ascription and achievement, social psychological models of status attainment examine the relative impacts of family background and schooling on future attainments, the role of academic ability in the attainment process, and the manner in which expectations and motivation affect attainment. In particular, it is this third issue which looks specifically at whether or not social psychological processes transmit the effects of the background variables or whether they have a direct impact on academic and occupational attainment.

The educational experiences that students have at university are often conceptualized as social psychological processes that play critical roles in the status attainment process. Moreover, these educational experiences are often characterized by the interactions that students have with significant others such as their professors and university peers (see Bulcock, 1982). Biddle, Bank, and Marlin (1980) and Kelley (1947) have suggested that these significant others perform two functions--one normative and the other comparative. Professors have been thought to perform primarily a normative role which involves establishing and

enforcing academic standards. On the other hand, students'
university peers have been thought to perform primarily a
comparative role which involves modelling appropriate social
and academic behaviour. Although the literature on
reference-group theory tends to suggest that these functions
are consistent across situations, the roles that significant
others perform may in fact depend on a variety of factors.
Moreover, these roles may vary from one profession to
another. In other words, the roles played by professors in
one profession may differ from the roles played by
professors in another profession. Within this context, it
is expected that this study will add to our understanding of
the roles performed by both professors and students in a
faculty of education.

Besides examining students' interactions with their
professors and university peers, this study examines two
other measures of institutional integration. Specifically,
it is proposed that the institutional integration of
students is not only dependent on their interactions with
significant others but by the cognitive demands and positive
affect that they perceive to exist in their respective
educational institutions (see Clifton & Roberts, 1993;
Kleinfeld, 1975; Roberts, 1990). More specifically,
students have a greater likelihood of being socially and
academically integrated within an educational institution if
it is both warm and demanding. From this perspective, if a

faculty maintains high academic standards but does not provide the necessary social support, or if a faculty provides substantial social support but does not maintain high academic standards, students are less likely to be academically and socially integrated within the institution; moreover, this lack of integration may have an effect on how they are socialized into their respective professions. Therefore, it is argued that student teachers are most likely to succeed in faculties of education that are both warm and demanding. What the literature does not tell us, however, is how these institutional conditions may affect students' social psychological dispositions. This is one more area in which this study hopes to expand our existing knowledge.

In addition to these four measures of institutional integration, the theoretical model includes two individual social psychological variables--motivation and academic self-concept. The inclusion of these variables is based on the work of Bank, Slavings, and Biddle (1990), Greene and Campbell (1993), and Pascarella and Terenzini (1977) who have suggested that the social psychological dispositions of people are often affected by the degree to which they feel integrated with others. Within this context, it is expected that student teachers who are academically and socially integrated within their faculty of education are likely to

be more motivated and have higher academic self-concepts
than student teachers who feel less integrated.

Although the status attainment approach has long been
used to study educational and occupational attainment, it
has yet to be used to examine the development of students'
professional identities. More specifically, in this study,
what is of interest is the degree to which various social
psychological variables mediate the effects of students'
background characteristics throughout the professional
socialization process.

Professional Socialization

One of the main reasons for studying the professional
socialization process is to examine the effects that
professional schools have on their students. In fact, the
focus of this study is on the experiences that student
teachers have within faculties of education which have a
significant effect on their identification with the teaching
profession. In order to examine the experiences of students
within professional schools, sociologists often refer to two
major conceptualizations found in the literature on
professional socialization. These conceptualizations, known
as the induction and reaction perspectives, provide a useful
means for examining the relationship between students and
professional schools.

The induction perspective, which was described at the
outset of this chapter and is widely-accepted by most

people, suggests that professional schools, such as faculties of education, control the dynamics of the professional socialization process (see Huntington, 1957; Merton, 1957). In other words, they not only teach students the necessary skills but they also instill specific attitudes and dispositions that are valued by the profession. Inductionists make three important assumptions. First, they assume that professional schools are institutionalized in society and that they constitute a subsystem of the parent profession. In other words, they take for granted that professional schools and their respective professions mirror one another in terms of goals, objectives, and organizational schemes. Second, they assume that students and professors are tied together through mutual interests. Stated differently, inductionists take for granted that the professional goals of these two groups are aligned to a great degree, even though students and professors occupy different statuses. Third, they assume that what students learn persists across situations and even across statuses. That is, inductionists take for granted that students will be able to apply what they have learned in their roles as student teachers to specific situations in their roles as practicing teachers. Therefore, the induction perspective suggests that factors related to structures within faculties of education are those most

responsible for developing students' professional identities
as teachers.

The reaction perspective, supported by Becker et al.
(1961) and Britzman (1986) is the antithesis of the
induction perspective. In other words, it suggests that the
dynamics of the professional socialization process are
controlled by students rather than by professional schools.
Reactionists argue that the skills, attitudes, and
dispositions that students acquire are due to their own
efforts rather than the structures within professional
schools. Moreover, unlike the inductionists, reactionists
take very little for granted during the professional
socialization process. First, reactionists do not assume
that professional schools are merely subsystems of the
parent professions; instead, professional schools are
conceptualized as independently-organized social units.
Second, reactionists do not assume that students and
professors are tied together through mutual interests. They
argue that because students and professors occupy different
statuses within the institution, they often have competing
interests and agendas. Third, reactionists argue that what
students learn does not necessarily transcend different
contexts and statuses; in particular, they do not agree that
students are able to apply knowledge learned as students to
professional situations later in life. Therefore, the
reaction perspective suggests that student teachers'

background characteristics and social psychological dispositions, rather than the institutionalized structures provided by faculties of education, have the most significant effects on their professional identities as teachers.

In reconciling the differences between the induction and reaction perspectives, Simpson (1979) has proposed a synthetic perspective of professional socialization. She has suggested that while the institutional factors stressed by the inductionists and the individual factors stressed by the reactionists are important, they probably interact during the professional socialization process. In other words, she has argued that the induction and reaction perspectives are probably more accurately conceptualized as "ideal-types". Furthermore, she has suggested that, in spite of the importance of the institutional and individual student variables already mentioned, perhaps the most critical role is played by a variety of social psychological processes that are believed to affect the institutional integration, academic attainment, and occupational attainment of students within professional schools.

According to Simpson's (1979) synthetic perspective, institutional integration variables such as interaction with professors, interaction with students, cognitive demands, and positive affect, and individual social psychological variables such as motivation and academic self-concept,

mediate the effects of students' background characteristics
on their later attainments. It is this rationale upon which
the theoretical model for this study has been based. In
other words, in this study, social psychological variables
are included as intervening variables between the university
and social background variables and the two measures of
professional identity. By structuring the model in this
way, it is expected to provide a greater understanding of
the variables that account for differences in student
teachers' professional identities.

Besides integrating the literature on professional
socialization, the theoretical model also integrates what is
known about the dimensions of the process itself. In this
regard, Simpson (1979) suggests that there are three
dimensions to the professional socialization process--the
education or knowledge base required, the cognitive
orientations or dispositions that shape the behaviour
expected by the profession at large, and the degree to which
individuals are related to the professional role or are
motivated to become members of a profession. The model that
guides this study integrates two of these dimensions--
cognitive orientations and relatedness to the professional
role. Moreover, by combining specific aspects of these two
dimensions, an expanded conceptualization of professional
identity has been developed.

Cognitive orientations describe students' conceptions of the work activities, inherent authority, and specific behaviours of a profession. In other words, cognitive orientations represent students' impressions of their future roles and how these roles fit into the context of the profession at large. Some research suggests that students' cognitive orientations develop in accordance with those of significant others such as faculty members and university peers within their professional schools (see Merton, 1957). Other research suggests that the values that students themselves bring to their professional education, not the values promoted within the professional school, direct their cognitive orientations (see Goldsen, Rosenberg, Williams Jr., & Suchman, 1960). In keeping with the synthetic perspective that guides this study, it is argued, along with Wright (1967), that the cognitive orientations of students are more likely influenced by both their significant others as well as by their own values. Furthermore, it is argued that one orientation in particular--a commitment to learning--is an important component of the professional identity of student teachers.

Relatedness to the professional role, the second dimension of professional socialization included in the model, refers to the attraction, commitment, and status identification shown by students to their future professions. Of particular interest in this study is status

identification or the motivation of students to use the
professional title as a label to describe themselves.
Although this aspect of relatedness to the professional role
was originally thought to result from the completion of a
professional program, Huntington (1957) and Kadushin (1969)
have suggested that year in program may be more significant
than actual completion. In other words, the more years that
students have completed in their professional programs, the
more likely they are to identify with their prospective
professions. Moreover, the degree of social and academic
integration that students experience within their
professional schools may also play a significant role in
determining the commitment of students to their future
professions. Stated differently, student teachers who are
integrated within a faculty of education are more likely to
develop a commitment to teaching than students who are less
integrated. Furthermore, it is proposed that both of the
dimensions discussed--a commitment to learning and a
commitment to teaching--need to be considered in order to
examine the professional identity of student teachers. The
following section explains more specifically how these
dimensions are interrelated and how they are both thought to
contribute to the development of student teachers'
professional identities.

Professional Identity

Traditionally, professional identity has been used to refer to the commitment that individuals show to the values and standards of their chosen professions. Jackson (1981) has suggested that professional identity can be examined by asking individuals to subjectively evaluate the importance of the identity and the impact it has on activities such as reading, conversations, decision-making, and self-presentation. It is this traditional notion of professional identity that is referred to in this study as commitment to teaching. However, the conceptualization of professional identity that is used in this study extends Jackson's (1981) definition to make it even more applicable to the teaching profession. In this regard, it is argued that in order to identify with the profession, teachers must not only be committed to teaching but they must also be committed to learning. It is also argued that teachers who are not committed to teaching and committed to learning pose a serious threat to the quality of education available to students.

In being committed to learning, teachers must show enthusiasm, curiosity, perseverance, open-mindedness, and other attributes of what Hare (1993) refers to as "the good teacher." Furthermore, they must also have an acute awareness and appreciation of the "joy and pain of learning" (see Adler, 1977). In other words, teachers who are

committed to learning can, from their own experiences, convey to their students that the learning process, while often intrinsically enjoyable, is also sometimes difficult.

This conceptualization of the professional identity of student teachers is based on the work of Adler (1977), Crawford (1993), and Kramer (1991) who make a further point regarding the work of teachers. They suggest that effective teachers merely assist their students in achieving results that they are already capable of achieving themselves. That is, although all students have the capacity to learn, it is the role models that effective teachers provide that enables their students to acquire the habits of mind necessary for developing a realistic appreciation of the process of learning and a general "thirst" for knowledge. In other words, as Kramer (1991) and Nikiforuk (1993) suggest, if students are expected to respect knowledge and be enthusiastic about learning, they must have teachers who can convey knowledge and inspire students by their own examples. One way they can do this is by using their learning to enrich their teaching and by using their teaching to enrich their own learning. Although this is, of course, an empirical question that can be tested by further research, it suggests that students may begin to understand that learning and teaching are part of the same process and that their teachers can provide them with effective role models in this regard.

Within this context, the present study makes three major contributions to the existing research on professional socialization. First, it adds to our understanding of the professional socialization process by examining student teachers, a group seldom considered in the past. Although sociologists have examined the professional socialization of students in law, medicine, music, and nursing, (see Broadhead, 1983; Huntington, 1957; Kadushin, 1969; Merton, 1957; Simpson, 1979), relatively few studies have examined the professional socialization of student teachers. In this respect, it is possible that there are factors involved in the professional socialization of student teachers that are unique to the teaching profession.

Second, the study adds to our understanding of the process by conducting a quantitative analysis of factors that are thought to be related to the professional socialization of student teachers. A search of the literature on professional socialization has revealed that the vast majority of studies which have examined the professional socialization of student teachers have been ethnographic in nature (see Britzman, 1986; Greene & Campbell, 1993; Nias, 1986). In general, they have examined topics such as student teachers' reflections of their preparation programs and problems they have encountered during their induction into the profession. None of the research reviewed for this study was based on theoretical

models that attempted to empirically measure the effects of specific variables on students' professional identities.

Third, this study adds to our understanding of professional socialization by examining professional identity from a different perspective. More specifically, although previous conceptualizations have addressed students' subjective evaluations of their future identities as professionals, it is argued in this study that, in order to examine the professional identities of student teachers, a more developed conceptualization is required. That conceptualization examines student teachers' continuing commitment to their roles as learners as well as their growing commitment to their future roles as teachers. It is also argued that, although the concept of "learner-teacher" is not a novel one, (see Adler, 1977, p. 175) this study marks the first time that it will have been empirically tested.

Although this conceptualization of professional identity has unique implications for teaching, there should also be implications for other professions; in other words, there are elements of learning and teaching to almost all professions including nursing, medicine, and law. From this perspective, the findings of this study should contribute not only to the specific literature on how teachers are socialized but also to the general literature on professional socialization. In spite of these

contributions, however, the present study does have a number of theoretical and methodological limitations. In the following section, these limitations are outlined.

LIMITATIONS OF THE STUDY

Theoretically, the study has three major limitations. The first of these concerns the extent to which a theoretical model can explain a complex process such as the one which transforms students into professionals. Obviously, with only 19 variables in the model, this study's explanatory power is relatively limited; in fact, only a relatively small percentage of the variance in student teachers' professional identities is explained by the variables in the model. From another perspective, however, this study is at least an attempt to empirically test many of the long-held but untested assumptions that people have had regarding the professional socialization process.

The second limitation specifically concerns the social psychological variables that are included in this study. Although a relatively large number of social psychological variables have been integrated into the theoretical model, they are treated, for all intents and purposes, as static rather than dynamic processes. In other words, because of the way in which these variables are measured, there is no way of knowing how student teachers' perceptions of their social and academic experiences vary over time. Given the

difficulty in capturing the dynamic nature of these processes, however, this study still provides a more extensive conceptualization of the social psychological processes that affect the professional identities of student teachers than has previously been examined.

The third theoretical limitation addresses the validity of using self-report data for educational research. More specifically, the measures of students' social psychological dispositions examined in this study are based on their own self-reports. Some may view this approach as problematic, particularly with respect to students' perceptions of the interactions they have with their professors. Symbolic interactionists, however, argue that peoples' subjective interpretations of reality are far more relevant than objective reality itself; in other words, peoples' *perceptions* of their experiences are, in fact, their experiences (see Clifton, 1981; Goffman, 1974, 1981).

Besides these theoretical limitations, the study is also limited methodologically. The first of these methodological limitations concerns the cross-sectional nature of the study. As discussed in Chapter 3, a random sample of students from each year of the undergraduate education program is surveyed and it is inferred that differences in students' perceptions are an effect of year in program. For example, it is argued that differences in perceptions between first and fourth year students may be

due to how much of the undergraduate program they have completed; in reality, however, these differences may actually be due to the specific students in the first and fourth year samples. Ideally, a study of this kind should track the same students over the entire course of their undergraduate programs in order to more accurately observe how their perceptions change as a function of time.

The second methodological limitation addresses the issue of generalizability. More specifically, since the findings of this study are based on data from only one faculty of education, readers should be careful in generalizing the results to other faculties of education. In spite of this cautionary note, however, it should be pointed out that the faculty examined in this study is similar to others in Canada in that it offers both consecutive and concurrent programs (see Fullan, Wideen, & Eastabrook, 1983). Therefore, while the relatively large sample of 562 students allows the results to be generalized to at least the total population of students in this particular faculty of education, perhaps the findings will be of interest to other faculties of education that offer similar programs.

The final methodological limitation concerns the measurement of the variables in the theoretical model. Specifically, some variables, such as gender and age, are measured at the nominal or ordinal levels. Halli and Rao

(1992) and Tabachnick and Fidell (1989) suggest that researchers should proceed with caution when using certain statistical procedures with variables measured at these levels. One of these statistical procedures--regression analysis--is the primary procedure used to analyze the data in this study. Although some statisticians are hesitant about using regression with data measured at these levels, others such as Lewis-Beck (1980, pp. 66-71) and Pedhazur (1982, pp. 274-289) argue that regression analysis and other parametric methods are robust enough to be able to be used with variables measured below the interval level. Furthermore, with dichotomous variables such as gender and program, a procedure known as "dummy variable analysis" is used to allow the calculation of effect parameters for these variables on the dependent variables in the model.

In essence, these six limitations need to be considered as the remainder of the study is outlined in the following chapters.

AN OVERVIEW OF THE STUDY

As was pointed out at the outset, a number of factors are believed to have a significant effect on the experiences that students have within professional schools. In this regard, some of these factors have been integrated into a theoretical model which has been developed to guide this examination of the professional socialization of student

teachers. This model measures the effects of the institutional variables characteristic of the induction perspective, the individual student variables characteristic of the reaction perspective, and the social psychological variables characteristic of the synthetic perspective.

While the purpose of Chapter 1 has been to introduce the main components of the study, the purpose of Chapter 2 is to examine the sociological concepts that are necessary for an understanding of professional socialization. In the first section, the concepts of statuses, roles, and identities are described and compared along with related concepts such as role accumulation, types of identities, and anticipatory socialization. Next, the discussion of the perspectives and dimensions of professional socialization is extended. Following this discussion, specific dimensions of the socialization of student teachers are examined and an expanded conceptualization of professional identity is introduced. Finally, the theoretical model that guides this study is presented.

In Chapter 3, four different aspects of the methodology are examined. First, a background to the study is provided; this is followed by a description of the sample of student teachers and the random cluster sampling technique used; next, the measurement of the 19 variables included in the theoretical model is presented; finally, the statistical

procedures that are used to analyze the data and the
assumptions of multivariate analysis are addressed.

The empirical examination of the theoretical model is
the subject of Chapter 4. In the first section, the zero
order correlations related to commitment to learning and
commitment to teaching are presented. This is followed by a
discussion of the assumptions of multivariate analysis.
Using this as a backdrop, the effect of sub-sample is then
examined. Finally, the effect parameters are presented for
the institutional integration, social psychological
dispositions, academic attainment, and professional
identities of student teachers.

Chapter 5 concludes the study. In doing so, it
presents a summary and a discussion of the results. This is
then followed by a number of implications for both practice
and research. In essence, it is argued that social
psychological processes both at the institutional and
individual levels have a significant effect on the
professional identities of student teachers. Furthermore,
it is suggested that, if faculties of education are
sincerely interested in attracting students who will develop
into committed teachers, they need to find people who are
also committed learners.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of this chapter is to examine the various theoretical perspectives that have led to the development of the model that guides the study. In this context, the chapter is divided into four sections. In the first section, the literature related to statuses, roles, and identities is examined in order to provide a backdrop for understanding the development of professional identities. In the second section, the discussion of professional socialization is expanded by explaining the theory underlying the induction, reaction, and synthetic perspectives introduced in Chapter 1. In the third section, a conceptualization of professional identity that examines student teachers' commitment to learning and commitment to teaching is proposed. Finally, in the fourth section, the previous sections are integrated by outlining the theoretical model and by explaining how it will be tested.

STATUSES, ROLES, AND IDENTITIES

One of the concepts that is central to a discussion of identities is the concept of status. Furthermore, in order to understand what professional identities are and how they develop, one must also understand the relationship between

statuses, roles, and identities. Therefore, in the first section of this chapter, these concepts are described in detail as they relate to the professional socialization process.

Statuses

Modern society consists of a myriad of distinct social systems and within each of these systems exist a variety of social positions. These positions are known as statuses (see Abercrombie, Hill, & Turner, 1984; Coser, 1991; Webb & Sherman, 1989). Just as the positions of parent and child are common statuses within the social system of the family, coach and athlete are common statuses within the social system of a sport, and professor and student are common statuses within the social system of the university. Furthermore, one of the realities of modern society is that most people interact within a variety of social systems and occupy not just one status but a number of statuses at any given time. For example, it is not uncommon for a university student to also be a parent, an employee, an athlete, and a volunteer. These collections of statuses are known as status-sets (see Coser, 1991, p. 115).

While all statuses imply certain divisions of labour, they also imply specific socially-accepted expectations of how individuals are to behave toward others (see Bredemeier & Bredemeier, 1978, pp. 35-36). Stated differently, statuses imply specific tasks that have attached to them a

set of culturally-derived expectations. In other words,
parents are expected to behave differently than their
children, just as coaches are expected to behave differently
than their athletes, and professors are expected to behave
differently than their students.

Jary and Jary (1991), McCall and Simmons (1966),
Stryker (1980), and Thoits (1983) have suggested that in
order for people to occupy statuses, they must not only be
involved in social interaction but they must also be able to
take the role of generalized others. Abercrombie et al.
(1984, p. 151) describe this as a process whereby
individuals imaginatively assume other social roles and
internalize the attitudes of the social group thus enabling
them to engage in complex cooperative processes. In other
words, taking the role of generalized others describes the
process whereby individuals adopt the shared values of other
"social actors" by imagining what their responses would be
in specific situations. MacKinnon and Grunau (in press)
argue that this is clearly what student teachers and other
university students must engage in as they interact with
their professors and their university peers in preparation
for playing their future roles as professionals. Thoits
(1983) has suggested that there are two important
implications to taking the role of generalized others.
First, it implies an awareness and acceptance of the
statuses in which individuals are placed by others in

society. Second, it implies that people are complex beings whose statuses, while organized, are always in a state of flux. Therefore, since peoples' involvements are constantly changing, so are their statuses and therefore, so are the behavioural expectations that others have for these statuses.

Roles

The behavioural expectations that are attached to statuses are called roles. Gross, Ward, and McEachern (1958), Merton (1957), and Sieber (1974) have described roles as patterns of expectations that apply to particular statuses and that persist independently of the individuals occupying them. In other words, the expected behaviour of people performing the roles of parents, coaches, and professors is more or less consistent, regardless of the personalities involved. Furthermore, the roles that people perform and the statuses that they occupy are influenced directly by others within the same social system. From this perspective, parents, coaches, and professors are expected to behave differently when interacting with diverse people in their respective social systems. Stryker (1980) and Weigert, Teitge, and Teitge (1986) emphasize this point when they state that roles exist not in isolation but as organizational links between individuals and the social structures to which they belong. In expanding this idea, Weigert et al. (1986, p. 52) explain that roles not only

refer to the rights and obligations related to statuses but they also refer to the expectations of individuals that shape their attitudes toward the social act. Therefore, "whether they refer to the rigid rules of asylums or the intimate patterns of love affairs, people not only enact a priori roles, they *make* [italics added] existential roles." In this way, student teachers, along with other university students, not only perform their roles as prescribed by their respective professional programs but they also "create" their own versions of their roles during their enactment. From this perspective, it is clear that both nomothetic and idiographic factors are important in effective role performance (see Jary & Jary, 1991, p. 227-228). That is, generalized and individual experiences both contribute to the roles that people play.

Just as most people occupy more than one status simultaneously, they also perform a number of roles related to each of these statuses. Sets of roles related to statuses are known as role-sets (see Merton, 1957; Thoits, 1986). Coser (1991, pp. 22-25) distinguishes between simple and complex role-sets by describing simple role-sets as those in which people occupy similar statuses and tend to share similar views and complex role-sets as those in which people occupy different statuses and tend to hold disparate views. Moreover, she argues that "under social conditions offering predominantly simple role-sets, the lack of a basic

source of disturbance is also a lack of a basic source of reflection." In other words, while the complex role-sets that characterize life within modern Western societies are often more problematic than the simple role-sets that existed in pre-modern societies, they also have the capacity to contribute more to peoples' social and intellectual development. From this perspective, accumulating roles offers a number of advantages.

Rewards of Role Accumulation. Sieber (1974) suggests that there are a number of benefits or rewards that are related to the accumulation of roles. Three of these rewards are role privileges, overall status security, and personality enrichment. The first reward addresses the privileges inherent in performing roles. More specifically, although the number of duties and obligations increase as people accumulate roles, so do the advantages that individuals can garner for themselves. Such privileges include the opportunity to participate in field experiences, the right to make suggestions for improving operations, and the right to interact with friends on the job. One of the privileges that many university students enjoy is the opportunity to participate in a practicum where they can learn under the tutelage of professionals in the field before they actually assume their own professional roles.

The second reward involves overall status security where people use their multiple roles to overcome the stress

and strain of different expectations. Sieber (1974) argues that people who have multiple role partners in a variety of contexts can fall back on certain relationships as a way of compensating for failure in others. In other words, people can use primary and secondary relationships in work and social settings as buffers under conditions of stress. This is clearly what university students who have work and family responsibilities must engage in as they attempt to meet the demands of their professional programs. In this regard, Coser (1991, p. 24) argues that "complex role-sets make it possible to use legitimate excuses or to claim legitimate commitments in selecting among one's multiple obligations." In order to do this successfully, however, people need to be able to differentiate between their various roles, articulate the possible conflicts between them, and then reconcile them or make certain choices (Coser, 1991).

The third reward involves personality enrichment. From this perspective, Coser (1991) and Sieber (1974) argue that accumulating roles enriches the personality and enhances the self-esteem of individuals by encouraging them to become more tolerant of viewpoints other than their own and to demonstrate greater flexibility when working with others. Sieber (1974, p. 577) argues, however, that ironically, many individuals become widely respected simply because of the number of roles that they perform. He states that "quite apart from their ability to reward their role partners with

special resources ... such individuals benefit from a sheer *presumption* [italics added] of superiority. This presumption can be easily sustained by a certain amount of impression management." That is, whether they perform their multiple roles effectively or not, people can give the impression to others that they have something valuable to offer.

Difficulties with Role Accumulation. In spite of the inherent benefits, there are also difficulties associated with role accumulation. More specifically, as individuals accumulate roles, they also increase the probability that the behavioural expectations that people have for them will conflict. Bredemeier and Bredemeier (1978, pp. 36-43) describe a number of difficulties, three of which deserve particular attention.

One difficulty lies with the dependency that often develops between individuals and their role partners. These are the people with whom individuals interact while performing specific roles. People learn to rely on their role partners to behave in certain ways; obviously, the greater the number of roles an individual plays, the greater the number of role partners they will have, and the greater the chance that these role partners will not live up to the expectations that others have for them. When this happens, social disorganization often results.

Bredemeier and Bredemeier (1978, p. 38) emphasize the interdependence of role partners by using a theatrical analogy. They state that "in life as in the theatre, if one is to play a role properly, the other role players must be playing by the same script. If 'she' thinks she is playing Juliet to his Romeo, but 'he' is playing Hamlet to her Ophelia, they are both in trouble." This is the kind of reciprocal independence and normative integration that Durkheim (1893/1960) recognized as the basis for social order. However, ensuring this independence and integration is difficult in modern societies in which people are expected to perform a variety of roles simultaneously.

A second difficulty in accumulating roles lies with the increased possibility of role conflict and role strain. These conditions arise as people attempt to balance the obligations of the multiple roles that they play. Role conflict develops when people receive discrepant expectations from their role partners (see Coser, 1991; Marks, 1977; Sieber, 1974). University students, for example, may be expected by a professor to complete assignments that are supported neither by professionals in the field nor by other professors. These kinds of situations can lead to role conflict since any degree of commitment to one role immediately jeopardizes peoples' reputations in other roles (see Edgell, 1970; Greene & Campbell, 1993).

Role strain, on the other hand, does not evolve through conflicting expectations but by people lacking the time, energy, or resources to meet the demands of their legitimate role partners (see Edgell, 1970). In this respect, student teachers, like other university students, are often expected to fulfill the obligations of many different roles as they interact with professors, professionals in the field, employers, and even other students. Coser (1974, p. 3) argues that role strain is inevitable "when people are expected to play many roles on many stages, thus parcelling out their available energies so that they can play many games." Goode (1960) adds that most people experience role strain on a regular basis; the solution is to determine how to allocate limited time, energy, and resources in order to meet role demands while minimizing the effects of role strain.

A third difficulty arises from people exerting their own individual personalities as they are performing their roles. If they invest too much of themselves into their roles, they run the risk of undermining the statuses that they occupy and the roles they are expected to perform. In other words, in order for people to play their roles effectively and, at the same time, maintain their personal identities, there must be a balance of the idiographic and nomothetic elements discussed earlier (see Jary & Jary, 1991, pp. 227-228). Of course, finding the balance between

nomothetic and idiographic elements becomes increasingly difficult as individuals begin to accumulate roles.. When the idiographic element becomes dominant, peoples' personalities risk becoming incongruent with their statuses, and role distance can occur (see Goffman, 1981, pp. 85-152). This is also the argument that Berger (1973) and Bredemeier and Bredemeier (1978, pp. 43-45) make when they refer to the societal shift from "sincerity" to "authenticity". They argue that over the last few decades, people have become less interested in conforming to institutional demands and more interested in "being true to themselves". In these circumstances, people send "messages" to others that the roles that they play are not a true reflection of who they really are. It is clear, however, that in order for organizations to operate effectively, there must be a delicate balance between sincerity and authenticity or between the roles that people play and their true selves. From this perspective, one of the goals of the professional socialization process must be to socialize individuals in such a way that they feel free to be themselves while still being able to meet the obligations of their professional roles.

People can add to their understanding of themselves and others by thinking about the degree to which the statuses that they occupy and the roles that they perform really

define who they are as individuals. This will lead them to
an understanding of their identities.

Identities

In simple terms, identities are peoples' conceptions of
who they are as individual human beings (Bredemeier &
Bredemeier, 1978, p. 36). More specifically, however,
identities have a certain social value and consist of
perspectives which are made up of definitions, values, and
attitudes that people use to inform and organize their
thoughts and actions toward themselves and others (see
Broadhead, 1983; Shibutani, 1955). In other words,
"identities provide an organizing and motivating frame of
reference for oneself and others that partially establishes
the initial definitions of a situation within which
interaction occurs" (Foote, 1951, p. 15). When people
identify themselves as student teachers, for example, not
only are they expected to perform certain roles but they are
also expected to internalize the attitudes and values that
guide these roles. One of these values, as is explained
later, is a commitment to learning.

Santee and Jackson (1979), Stryker and Serpe (1982),
Thoits (1983), and Weigert et al. (1986) maintain that
identities do not exist in isolation but are claimed and
sustained in reciprocal role relationships and are both
objectively and subjectively constructed. In other words,
when people possess identities, they are not only, as Stone

(1962, p.93) states, "cast in the shape of a social object by their acknowledgement of [their] participation or membership in social relations", but are assigned social positions by others which they then accept for themselves. Burke and Tully (1977) provide a general perspective for understanding the relationship between statuses, roles, and identities. They state that, while statuses represent the social positions themselves, roles represent the behavioural or external component, and identities represent the emotional or internal component of these positions. Furthermore, Burke and Reitzes (1981, p. 84) suggest that all identities are social products formed and maintained through social interaction, that they are symbolic and reflexive in nature, and that they are self-meanings which are arranged hierarchically by individuals.

In addressing the symbolic and reflexive nature of identities, Burke (1991) and Carver and Scheier (1981) maintain that in the past, many identity theorists have misunderstood the true nature of identity by thinking of it as a static state or trait of individuals. They argue that the identity process should be conceptualized more as a control system that is constantly being adjusted during social interaction. In fact, Burke (1991) and Powers (1973) suggest that when an identity is activated, a feedback loop is established. According to Burke (1991, p. 837), this loop has four components: "a standard or setting (the set of

self-meanings), an input from the environment or social
situation (including one's reflected appraisals) ...a
process that compares the process to the standard (a
comparator); and an output to the environment (meaningful
behaviour)." He maintains that the system operates by
adapting the behaviour to the social situation so that the
reflected appraisals match the internal standards. In this
sense, one goal of the identity control system is to match
environmental inputs to internal standards. Furthermore,
another goal of the control system is to aid individuals in
arranging their identity hierarchies.

Identity Salience and Identity Commitment. On this
point, Stryker (1968) has contributed to the understanding
of identity by distinguishing between identity salience and
identity commitment. He refers to identity salience as the
hierarchy of discrete identities that comprise the self. In
other words, peoples' multiple identities are arranged
hierarchically to produce a rank order of probabilities that
any one identity will be invoked in a certain situation.
Stryker (1968) and Stryker and Serpe (1982) stress that this
hierarchy becomes particularly important when the identities
that people assume call for incompatible behaviour; when
this occurs, their identity hierarchy becomes an important
predictor of how they will behave. People who identify
themselves both as university students and as prospective
teachers may find that the behaviour expected of them in

these roles is not always congruent. For example, they may
be expected to act rather passively in some of their
university classes yet they may be expected to behave
proactively during their student teaching experiences.
When situations like this occur, peoples' identity
hierarchies determine, to a large extent, how they will
behave.

Identity commitment, on the other hand, refers to "the
degree to which the person's relationships to specified sets
of others depends on his or her being a particular kind of
person in an organized structure of relationships and
playing a particular role" (Stryker & Serpe, 1982, p. 207).
In other words, as Jackson (1981, p. 139) argues, while
identity salience refers to the probability of peoples'
behavioural responses, identity commitment refers to the
strength of their affective responses. Kanter (1972) and
Weigert et al. (1986) argue that all individuals possess an
inherent identity structure that is derived from society and
is activated situationally according to the demands facing
them and those with whom they interact. To use the previous
example, people who have stronger affiliations as
prospective teachers than as university students will
probably behave more often as prospective teachers.

Although Stryker and Serpe's (1982) description of
commitment makes logical sense as an ordering principle,
other researchers have examined more specifically, the

determinants of identity commitment; in this regard, three different perspectives have been proposed. One perspective proposed by Coser (1974), Goode (1960), and Sarbin and Allen (1968) suggests that commitment is dependent on the amount of time and energy devoted to identities. In other words, the more time and energy that people devote to their identities, the greater is their commitment to them. In this regard, Marks (1977) points out that the time and energy of individuals must be allocated carefully among their identities. This is similar to the "network-embeddedness" conception of commitment proposed by Stryker (1968). It suggests that identity commitment is dependent on the degree to which the identities of individuals are embedded in the network ties they have with others.

A second perspective proposed by Marks (1977) and Rosenberg (1979) emphasizes the subjective importance or "psychological centrality" of identities to individuals. In other words, they propose that people are more committed to the identities that mean the most to them. Moreover, they point out that it is possible for people to be highly committed to identities without investing inordinate amounts of time and energy into them. They also point out that the subjective importance of peoples' identities often change over time. For example, student teachers may see themselves more as learners or students at the beginning of their

undergraduate programs and more as teachers at the end of
them.

A third perspective proposed by Thoits (1983, 1986)
suggests that most theorists fail to consider the relative
value or cultural rank of identities. Building on the work
of Broadhead (1983) and Goode (1960), Thoits (1983, p. 177)
argues that "commitment to an identity--whether measured in
network ties, invested time and energy, or subjective
importance--should vary with the value or worth of the
position upon which the identity is based."

Although an understanding of the determinants of
identity commitment is useful, it is also important to
remember that identities are situationally-based; in other
words, they reflect different facets of peoples' lives. In
the following section, various types of identities are
introduced; one type of identity in particular--professional
identity--is of most interest to this study of the
professional socialization of student teachers.

Types of Identities. In considering the situational
nature of social interaction, Jackson (1981) has identified
a number of identities. Associational identities are the
labels for formal or informal membership in organizations or
groups; kinship identities are labels that describe
relationships with family members; peer identities are
labels that describe relationships with people in the same
age range; recreational identities are labels that describe

what people do in their spare time; religious identities are
labels that describe peoples' religious affiliations;
romantic identities are labels that describe close, intimate
relationships; and occupational or professional identities
are labels that describe the kind of work people do to make
a living. It is this final type of identity that is the
focus of this study.

Even though sociologists have studied professional
identity for years, the terminology they have used has not
always been consistent. Jackson (1981) has used the term
occupational identity, Becker et al. (1961) and Huntington
(1957) have referred to professional self-image, Kadushin
(1969) has spoken of professional self-concept, and Simpson
(1979) has discussed status identification. All of these
terms refer to the values, attitudes, skills, and
dispositions of professionals. Although sociologists may
disagree on the effect that professional schools have on the
formation of these professional identities, they generally
agree that some form of anticipatory socialization occurs
well before students ever become full-fledged professionals.

Anticipatory Socialization. Jary and Jary
(1991, p. 22) define anticipatory socialization as "any
process in which an individual endeavours to remodel his or
her social behaviour in the expectation of gaining entry to
and acceptability in a higher social class [or profession]
than that currently occupied." Moreover, this process is

sometimes referred to as a type of self-socialization involving a variety of activities including daydreaming, forecasting future situations, and role rehearsal (see Clausen, 1968. p. 130). Activities such as these play an important role in the process of identity transformation which usually evolves over a long period of time.

In this regard, Travisano (1970) has provided a useful distinction between two kinds of identity transformations - alternations and conversions. Alternations are new identities that are simply additions or extensions to peoples' sets of existing identities. Since this process does not involve a radical·change to peoples' lives, it usually occurs without considerable trauma. Conversions, on the other hand, are new identities that necessitate a dramatic reorganization of peoples' previous identities. Because this process involves drastic changes to peoples' lives, considerable distress is possible. Broadhead (1983, p. 37) argues that "regardless of whether the development of a professional identity amounts to an alternation or a conversion, either process requires students to relate, integrate, and align their emergent professional identities with all others." He suggests that a process called internalization must occur in order for students to engage in the symbolic articulation of their new professional identities. In other words, whether or not the process involves a total upheaval of their personal lives,

university students such as student teachers must come to terms with where their new professional identities will fit into their existing identity hierarchies.

It is commonly assumed that, throughout this internalization process, a critical role is played by professional schools; in fact, this is the essence of the induction perspective of professional socialization discussed in the next section. Although one of the major goals of such schools is to produce graduates with strong professional identities, Kadushin (1969) and Merton (1957) suggest that achieving such a goal is more problematic than one would think. In particular, they argue that students who identify too early with their future roles as professionals often find it difficult to meet the requirements of their present roles as students. As Merton (1957) points out, too much anticipatory socialization by students can lead to low motivational levels to play their current roles. In other words, some university students fail to realize that they must continue to be learners even though they are being prepared to be professionals. This raises the question of whether or not one of the primary objectives of professional schools is to control the rate of students' anticipatory socialization. Moreover, it raises a further question of the control that professional schools have on the overall professional socialization process. Is the process, as the inductionists would have us believe,

primarily controlled by professional schools or is it, as the reactionists argue, primarily controlled by students themselves? In this study, it is argued that the professional socialization process is affected by both professional schools and students through a variety of social psychological processes. It is within this context that the professional socialization of student teachers is examined in the following section.

THE PROFESSIONAL SOCIALIZATION PROCESS

Study of the professional socialization process is by no means a recent phenomenon. Although the seminal work in this field is Merton's (1957) study, The Student Physician, a number of earlier studies examined the socialization process in other occupations. Donovan (1920, 1929), for example, explored the world of the waitress and the saleslady; Dornbusch (1955) examined the training given to coast guard cadets; and Sutherland (1937) studied the world of the professional thief. However, it is Merton's (1957) study of prospective physicians that has generally been regarded as the first to use a conceptual approach to examine the professional socialization of students.

Perspectives of Professional Socialization

As pointed out in the first chapter, one perspective of professional socialization developed by Merton (1957) and supported by Huntington (1959), Kadushin (1969), and

Sherlock and Morris (1967) views the professional
socialization process primarily as one of induction. As
students proceed with their professional education, norms
are imparted, attitudes are formed, and skills are
developed. Moreover, as students move from one year in
their professional programs to the next, they gradually
begin to think and act as professionals; in other words, the
process of internalization becomes more pronounced as they
near the end of their professional programs.

A basic tenet of the induction perspective is that
social learning takes place during professional education
and at the heart of the socialization process is the
professional school. That is, one of the primary goals of
the professional school is to socialize students into their
professional roles. According to Simpson (1979), the
induction perspective rests on four major assumptions.
First, when a profession is institutionalized in society, a
professional subculture develops around it. In other words,
a whole set of beliefs, values, and norms become shared and
actively participated in by an appreciable minority of
people (see Jary & Jary, 1991, p. 503). Second, the
professional school is the main storehouse of this
professional subculture. Third, the professional school is
a subsystem of the larger profession and because of this,
students and faculty are tied together through mutual
interests and motivations. Fourth, students are viewed as

"professionals in the making" rather than as students and are therefore, treated accordingly by those who are responsible for socializing them.

Besides these four assumptions, however, there are other characteristics of the induction perspective that must also be considered. For instance, proponents of this approach take a professional outcome for granted although they recognize that the extent of socialization is dependent, to a large degree, on the quality of a professional school's program, its congruence with the professional subculture, and professional opportunities that are provided for students. Inductionists also assume that what students learn persists across situations; in other words, they argue that professional norms are stable not only across situations but from peoples' experiences as students to their experiences as professionals. Finally, inductionists also take student motivation for granted during the entire professional socialization process. To use a locus of control analogy, inductionists argue that the locus of control lies clearly with the professional school--students are merely the "actors" on the "stage" directed by the school (see Sarbin & Schiebe, 1983).

A second perspective of professional socialization developed by Becker et al. (1961) and adopted by Friedson (1970), and Oleson and Whittaker (1968), views the professional socialization process as one of reaction. In

other words, as students proceed with their professional
education, they constantly interact with their professional
school, and it is what they themselves make of these
experiences that determines the strength of their
professional identities. Accordingly, proponents of this
approach view students, not the professional school, as
being primarily responsible for the development of their own
professional identities. Inherent in this approach is the
premise that the professional school is not a subculture of
the profession at large and does not represent a set of
mutual interests between students and faculty. Instead,
students and faculty are seen as separate entities, each
with their own objectives and agendas.

Reactionists also reject a number of other inductionist
assumptions. First, they question that professional roles
are institutionalized in society. More specifically, they
argue that professional roles cannot be institutionalized
because they are products of specific situations that are
constantly changing. Second, they question not only whether
the standards of one professional school are comparable to
others but whether the standards even within one school are
consistent across faculty members and departments. Third,
they do not accept the assertion that students should be
treated as "junior colleagues" during their professional
education. Instead, they argue that students should be
treated as students until such time that they have mastered

the skills and have acquired the attitudes that are necessary for full membership within a profession.

In contrast to the inductionist approach, one of the basic tenets of the reaction perspective is that learning to behave and think as a professional cannot occur during professional education but can only take place after assuming a professional role in the workplace. In other words, simulation activities or clinical experiences cannot possibly prepare students for life as full-fledged professionals. As Friedson (1970, p. 89) notes, "there is some very persuasive evidence that socialization does not explain some important elements of professional performance half so well as does the organization of the immediate environment." To use the previous analogy once again, reactionists argue that the locus of control lies clearly with students, not with the professional school. In other words, students are not only the "actors" but the "directors" of their own professional socialization.

In essence, the basic difference between the induction and reaction perspectives centres around the issue of continuity in behaviour. The inductionists argue that professional norms are imparted during professional education and that these norms carry over into professional practice. Reactionists, on the other hand, argue that professional behaviour develops in the workplace, and that

it is in that environment where professional norms are learned.

In reconciling the basic differences between the inductionist and reactionist approaches, Simpson (1979) has argued that professional socialization may result from a combination of both institutional and individual factors. In fact, she has suggested that the induction and reaction perspectives are actually "ideal-types" or extreme representations of reality. In this regard, she has proposed a synthetic perspective of professional socialization which is consistent with Otto and Haller's (1979) social psychological model of status attainment discussed in Chapter 1. In suggesting that institutional and individual factors interact in the development of professional identities, Simpson (1979) has also implied that social psychological processes such as students' interactions with significant others, play a major role in the professional socialization process. In other words, she has suggested that these processes mediate the effects of students' university and social background characteristics on their later attainments.

Besides identifying these major theoretical perspectives of professional socialization, Simpson (1979) has also identified specific dimensions of the socialization process. These dimensions, which are directly related to the expanded conceptualization of professional

identity developed in this study, are discussed in detail in the following section.

Dimensions of Professional Socialization

From her extensive examination of the professional socialization of nurses, Simpson (1979) has identified three general dimensions of the professional socialization process. One dimension includes the education or knowledge base that people require in order to perform their professional roles, a second dimension includes the cognitive orientations or dispositions that shape the behaviour and attitudes expected by the profession at large, and the third dimension includes peoples' relatedness to their professional roles or their motivation to become members of their prospective professions.

Education. At the university level, education is seen as the foundation upon which lay people are transformed into full-fledged professionals. In other words, the knowledge imparted within professional schools is often considered to represent the master template from which students' cognitive orientations and relatedness to the professional role develop and grow (Simpson, 1979). In fact, the knowledge base developed during professional education enables students to become proficient in a variety of relevant skills which, in turn, enables them to provide a professional service to the general public. In this regard, student teachers learn the intricacies of the educational

system in order to teach their students just as medical students learn the intricacies of medicine in order to provide medical services to their patients.

Cognitive Orientations. Although the education that students receive during their professional school experience is important for developing a professional knowledge base, it is also important in developing cognitive orientations to a profession. In this context, Simpson (1979, p. 30) has identified two types of orientations--those that describe peoples' conceptions of how their individual roles will fit into the profession at large, and those that describe peoples' conceptions of the specific realities of their future roles as professionals.

The first orientation involves an individual's understanding of where they, as beginning professionals, fit within the existing hierarchy of their chosen professions. In this regard, most professions are differentiated horizontally by work setting and function, and vertically, by the professional education and prestige that certain positions have over others. Although Simpson (1979) has suggested that students' orientations toward the profession as a whole are important, she has been quick to point out that these kinds of orientations cannot develop until students first have a thorough understanding of what their future roles will actually entail. That is, once people understand the behaviour and authority implicit in their

future roles, they can then begin to show an interest in, and are able to understand where their roles as individuals will fit into the profession as a whole. Therefore, such issues as salary, working conditions, and lines of authority become much more relevant as students near the completion of their professional education and they begin to identify increasingly with their future roles as professionals.

The second and perhaps more important of the two orientations concerns peoples' conceptions of the work activities, values, and attitudes that are central to their roles as prospective professionals. Some researchers have argued that students' conceptions of their professional roles are tied directly to faculty members and practitioners in the field (see Merton, 1957). Other researchers have maintained that students' own conceptions of their professional roles are far more salient (see Goldsen et al., 1960). Arguing from a synthetic perspective, Wright (1967) has suggested that both influences represent vital forces in the development of students' orientations to their professional roles. Moreover, he has suggested that in optimal conditions, the conceptions that students have of these roles are consistent with those modelled within both the professional school and the field.

In comparing professions, it seems that one of the cognitive orientations that is valued universally is a commitment to lifelong learning (see Knapper & Cropley,

1985). This not only includes formal education but other learning opportunities where new knowledge is sought and new skills are learned. Cropley (1980), Cross (1981), Jarvis (1986), and Knowles (1975) argue that a commitment to lifelong learning is essential in order for people in general and professionals in particular, to cope with the social, economic, and cultural changes that face them daily. In some instances, this learning involves upgrading or extensive retraining in the workplace while in others, it simply involves keeping abreast of new developments within a profession. Moreover, Knapper and Cropley (1985) suggest that a commitment to lifelong learning can also serve as a device for satisfying peoples' social, emotional, and aesthetic needs even during times of rapid social change.

It is argued in this study that student teachers' commitment to learning is dependent to a large extent on how socially and academically integrated they are with faculty members and other students in the faculty of education that they attend. In other words, the interactions that students have with their professors and university peers function as important benchmarks for how the profession as a whole regards learning. If their professors are actively engaged in ongoing research, if they use this research to enrich their teaching, and if they demonstrate enthusiasm for their specific discipline, student teachers may be more likely to be committed to learning. Similarly, if their university

peers show an intrinsic interest in learning beyond the requirements for their courses, student teachers are also more likely to be committed to learning themselves.

Besides the importance of these significant others, it is also argued that students teachers' commitment to learning may also be influenced by perceived institutional characteristics. In other words, student teachers are more likely to be committed to learning if the faculty of education that they attend maintains high academic standards coupled with the emotional support that is necessary to achieve them. In this regard, Kleinfeld (1975) maintains that educational institutions must be demanding in the cognitive domain and warm in the affective domain in order for students to be successful. This is consistent with the social psychological literature on power and affect which states that students require clear demands for change coupled with reliable emotional support in order for them to achieve their full potential (see Boldt, Lindquist, & Percival, 1976; Bredemeier & Bredemeier, 1978; Brim, 1966; Roberts & Clifton, 1988).

Besides education and cognitive orientations, Simpson (1979) has suggested that a third dimension of professional socialization, relatedness to the professional role, must also be considered when examining the professional socialization process.

<u>Relatedness to the Professional Role</u>. Simpson (1979,
pp. 35-43) has argued that people are related to their
professional roles in three major ways: attraction,
commitment, and status identification. Simpson (1979,
p. 39) has referred to attraction as "the high evaluation of
an occupation, of participation in it, and of being
identified as a member of it." General public opinion as
well as peoples' own experiences within professional schools
both contribute to the attraction of students to specific
professions (see Davis, 1965; Rosenberg, Suchman, & Goldsen,
1957).

The second way that individuals are related to their
professional roles is through commitment. Simpson (1979,
p. 40) refers to commitment as the degree to which students
invest themselves personally in their future professional
roles; within this context, commitment is inferred from the
consistency of peoples' past actions with their present
actions. Moreover, commitment is also inferred from
students' responses to structural arrangements which test
their levels of perseverance. Structural arrangements such
as rules, regulations, and the design of professional
programs not only ensure consistency of standards within
programs but they also serve as important "weeding-out"
mechanisms for those students who are unable to persevere
and who are less committed to their future roles as
professionals. Clifton, Mandzuk, and Roberts (1994, p. 184)

report the comments of one student teacher which illustrate
the frustration that many university students experience
with the structural arrangements within their professional
schools:

> Not allowing students any leeway in shaping their
> education is a contradiction to all we have learned
> about--a more progressive approach which allows the
> child to work in areas of interest under the
> guidance of a teacher.

Finally, Simpson (1979, p. 36) has proposed that the
third way in which individuals are related to their
professions is through status identification--it is this
aspect of students' relatedness to their professional roles
that is most pertinent to the present study. She refers to
status identification as students' motivation to use a
professional title in order to answer the question, "Who am
I"? Huntington (1957) and Kadushin (1969) have argued that
using a professional title does not occur simply as a result
of graduating from a professional program. Instead, they
have maintained that status identification often occurs
before students graduate and therefore, it is influenced
greatly by the degree to which students are institutionally
integrated.

Pascarella and Terenzini (1991, p. 51) define
institutional integration as "the extent to which

individuals share the normative attitudes and values of peers and faculty in the institution and abide by the formal and informal structural requirements for membership in that community." Keeping in mind the perspectives of professional socialization described earlier, there are two possible ways that this kind of integration can develop.

Inductionists, for example, argue that peoples' interactions with professors and students have a direct impact on their social and academic integration. In this context, Huntington (1957) maintains that, when students perceive that others expect them to perform their professional roles, they increasingly do so. Therefore, through repeated experiences of this kind, students identify more and more with their chosen professions. This kind of influence is consistent with the comparative or modelling function of significant others described in reference-group theory (see Bank, Slavings, & Biddle, 1990, p. 210).

Reactionists like Becker et al. (1961), on the other hand, observe the same kind of interactions but use a different conceptualization to interpret them. In their view, as others repeatedly identify a person with a role, "he [sic] is pushed in the direction of assuming the identity" (Becker & Carper, 1956, p. 297). It is through this process that alternative roles are eliminated from students' lists of alternative professional choices. This kind of influence is consistent with the normative function

of significant others also described in reference-group
theory (see Bank, Slavings, & Biddle, 1990. p. 210). In
other words, while Huntington's (1957) conceptualization
regards significant others as "guides" towards professional
roles, Becker et al. (1961) see them more as "enforcers" in
the same process. From the synthetic perspective that this
study takes, it is quite probable that both of these
processes occur in different contexts and to different
degrees as students begin to play their professional roles.

Regardless of whether the process is one of guiding or
enforcing, the importance of the university in the
socialization process is well documented (see Chapman &
Pascarella, 1983; Clark & Trow, 1966). Moreover, Pascarella
(1980) has argued that individuals change in ways that
reduce the differences between them and the interpersonal
environments in which they interact. Therefore, it is
argued in this study that the commitment of student teachers
to both learning and teaching is shaped by the degree to
which they are socially and academically integrated within
their respective faculties of education.

Although the three dimensions of professional
socialization identified by Simpson (1979) are universal,
there are also differences in how students are socialized
from one profession to another. In the next section, the
professional socialization of student teachers is examined.
Not only is a rationale for the present study provided but

many of the concepts already introduced are applied specifically to the professional socialization of student teachers.

THE SOCIALIZATION OF STUDENT TEACHERS

The statuses that student teachers occupy represent pivotal social positions in their transitions from students to certified professionals. Although they are important, however, these statuses are also problematic in that they are inextricably tied to two major social structures--the faculty of education, their place of study on one hand, and the schools, their place of potential employment, on the other. Although it is assumed that they work together in the socialization of student teachers, faculties of education and schools sometimes work across purposes. In this respect, student teachers are expected to act more as students in faculties of education and more as teachers in the schools. Unfortunately, as student teachers progress through their undergraduate programs, they often find that occupying these two statuses becomes increasingly complex because the delineation between their roles as students and their roles as teachers is typically unclear and poorly articulated. It is within this context, that the socialization of student teachers occurs.

Once student teachers are enrolled in their undergraduate programs, their lives begin to change dramatically. For one thing, their number of role partners increases significantly. Added to their list of previous role partners such as family members, peers, and employers are professors, faculty advisors, and cooperating teachers. With this increase in the number of role partners, student teachers often experience many of the inherent benefits and drawbacks of role accumulation.

Two benefits that student teachers garner for themselves are role privileges and personality enrichment. One of the role privileges that student teachers experience is being allowed to perform the teacher role without any of the real obligations associated with it. In this regard, student teachers are able to "get their feet wet" without having to cope with professional responsibilities such as committee work, extracurricular involvement, and record keeping. Student teachers are also able to benefit from personality enrichment by virtue of the fact that their role partners represent a cross-section of the educational community. Exposure to widely-differing views on ideological, methodological, and curricular issues allows student teachers to develop their own perspectives on teaching that are suited to their individual personalities and belief systems.

Although there are benefits to the role accumulation that student teachers experience, there are also drawbacks. For one thing, the success of student teachers is, to a large extent, limited to the experience and skills of their professors and cooperating teachers. When these role partners are "warm demanders"--that is, they have high academic standards but also provide adequate emotional support--there is a strong likelihood that student teachers will achieve their full potential. However, when these role partners do not uphold such standards and do not provide such support, student teachers have to rely on their own resources in order to develop as professionals. Just as the actors discussed in Bredemeier and Bredemeier (1978, p. 38) need to be reading the same script, student teachers and their role partners need to share the same objectives.

When professors are grounded only in theory and teachers are grounded only in practice, for instance, behavioural expectations often conflict. As a result, student teachers may receive mixed messages about how to think and behave and may begin to view their experiences within faculties of education as meaningless. In fact, a 23 year-old student teacher in a study conducted by Clifton, Mandzuk, and Roberts (1994, p. 186) expresses these exact feelings when she states:

> The courses and assignments in this faculty do not
> pertain to the teaching profession. What you learn
> here from your courses is hardly applicable to the
> teaching field.

The conflicting behavioural expectations in such situations
can lead to role conflict and the ensuing demands on time,
energy, and resources, can lead to role strain. Moreover,
if such situations are extreme enough, there is also the
likelihood that individuals will distance themselves from
their roles as student teachers and will invest more of
their time and energy into other roles. This, of course,
would represent a worse-case scenario that would defeat the
purposes of any faculty of education, regardless of whether
it followed an inductionist, reactionist, or synthetic
approach.

Although the behavioural expectations of student
teachers' role partners do not necessarily conflict, it is
clear that the more their perspectives on teaching mirror
one another, the more likely student teachers will accept
the social positions assigned to them; in other words, the
more likely they will identify with the teaching profession.
Furthermore, it is also clear that, as with other university
students, the extent to which student teachers are socially
and academically integrated has a significant effect on the
salience of their professional identities and the strength
of their commitment to them. Stated differently, the

interactions that student teachers have with significant others have a direct impact on the extent to which they will think and behave as teachers and the extent to which their professional identities will rank highly in their individual identity hierarchies.

One of the issues that has been seldom examined has been the anticipatory socialization of student teachers. In other words, very little is known about how student teachers begin to perform their future roles as teachers while still remaining motivated to perform their current roles as learners. Furthermore, the role that faculties of education play in controlling the anticipatory socialization of student teachers is also unclear. In spite of these questions, however, it appears as though the induction and reaction perspectives of professional socialization described earlier in this chapter do not adequately explain how student teachers are socialized into the teaching profession.

The induction perspective appears to place so much emphasis on institutional factors that individual student attributes such as motivation seem to be taken for granted and are virtually ignored (see Simpson, 1979, p. 9). In other words, although structural and programmatic features of faculties of education are seen as relevant, qualities that students themselves bring to their professional education are not generally considered to even enter the

socialization "equation". Furthermore, with faculties of education seen as the main repositories of professional knowledge and skills, students are viewed more as passive recipients than active participants in their own professional socialization.

The reaction perspective, on the other hand, appears to emphasize individual factors at the expense of institutional factors that may play an important role in the socialization process. In this regard, the actions of student teachers are seen as adaptive responses to their subordinate positions within faculties of education where they are treated as students rather than "teachers-in-the-making". Unlike proponents of the induction perspective, reactionists argue that the attitudes and behaviour learned in a faculty of education are not the major influences on the behaviour of teachers because behaving as a teacher can only occur when one actually *is* a teacher. Although reactionists recognize the capacity of student teachers to play an active role in their own professional socialization, they most likely underestimate the effect that faculties of education have on the development of student teachers' professional identities. In particular, they probably undervalue the importance of the social psychological processes that facilitate the professional socialization process.

In trying to reconcile the differences between these two perspectives, it appears as though the only perspective that adequately describes the professional socialization of student teachers is the synthetic perspective proposed by Simpson (1979). Within this context, three aspects of the professional socialization of student teachers must be considered. First, the institutional features of faculties of education and the individual attributes of students must both be considered as important elements of the process. Second, the social psychological processes that mediate the effects of these background factors on students' later attainments must also be examined. Finally, specific dimensions of professional identity that apply specifically to the teaching profession must also be considered.

Specific Dimensions of Student Teacher Socialization

Although there are similarities in the ways that students are socialized into their professions, there are also differences that distinguish one profession from another. In this respect, two interrelated dimensions of the professional socialization of student teachers--their commitment to learning and their commitment to teaching-- represent aspects of the process that certainly apply to the teaching profession and may apply to other professions, as well.

Commitment to Learning. Earlier in this chapter, commitment to learning was described as one of the cognitive

orientations that was universally valued by all professions. It has been argued that such commitment not only enables individuals to acquire new skills and knowledge but also helps them satisfy their own social, emotional, and aesthetic needs. However, a commitment to learning has even wider repercussions for teaching in that teachers who are committed to learning serve as important role models for their students. In other words, committed teachers should also be committed learners.

Although other professionals such as physicians and lawyers are expected to be committed to learning as a way of keeping abreast of new developments in their fields, their main concern is to provide professional services to their patients or clients. Whether it means performing operations or representing people in court, there are comparatively few opportunities for these professionals to model certain behaviours or instill certain attitudes in their patients or clients.[1] This is not true for teachers. One of their main objectives is to model appropriate learning behaviours and instill in their students a positive attitude towards learning. In other words, as Crawford (1993) suggests, the main job of teachers is not so much to teach as it is to encourage students to learn. One of the most important ways that they can achieve this goal is by personally

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[1]Of course, this excludes physicians and lawyers who, besides their medical and legal duties, also supervise medical and law students.

demonstrating the behaviours and exemplifying the attitudes that they hope to see develop in their students. This is exactly what Crawford (1993, p. 6) implies when he states that "the most profound effect [teachers] make on their students is not what they *teach* but what they *are* [italics added]."

Adler (1977) makes the same argument when he describes effective teachers as "cooperative artists". Teachers who are cooperative artists are not restricted to didactic teaching but are able to assist students in learning new things for themselves. Furthermore, Adler (1977, p. 175) insists that student teachers must understand that their primary roles as teachers is to be expert learners. He argues that a "learner-teacher" is one whose teaching involves genuine intellectual activity on the teacher's part as well as on the student's part. This stands in stark contrast to the lecture style of teaching in which the role of teachers is merely to dispense information and the role of students is simply to memorize it. Adler argues that only by engaging both teachers and students in genuine intellectual activity can students pass from a state of ignorance to a state of knowledge.

Although little research has been conducted in this area, it seems likely that the motivation and academic self-concepts of student teachers may be significantly affected by the interactions that they have with their professors and

university peers as well as the academic standards and social support that characterize the faculty of education that they attend. Furthermore, it also seems likely that the extent to which faculties of education are warm and demanding may also affect the academic attainment of student teachers as well as their commitment to learning and their commitment to teaching.

Commitment to Teaching. Although three aspects of personal relatedness--attraction, commitment, and status identification--were introduced earlier in this chapter, it is the third aspect, status identification, that is of particular interest in this study. From a teaching perspective, status identification refers to the extent to which student teachers internalize the behaviours, attitudes, and values that are representative of the profession in general. Therefore, in examining the status identification of student teachers, what is of interest is their commitment to teaching in relation to their other commitments and identities.

Early work on professional socialization suggested that the commitment of students to their prospective professions was, to a large degree, a measure of the time they had spent in their professional programs. In other words, student teachers in the final year of their undergraduate programs were expected to be more committed to teaching than students in the first year of their programs. More recent research,

however, has suggested that the same social psychological processes that affect students' commitment to learning may also affect their commitment to teaching. In other words, the interactions that student teachers have with significant others such as their professors and university peers may have a significant effect on the social and academic integration of students into their undergraduate education programs. Furthermore, the cognitive demands and social support that characterize a faculty of education are also likely to add to their sense of integration. This integration may also affect the motivation and academic self-concepts of student teachers which may, in turn, affect their academic attainment and commitment to teaching. In sum, it is expected that the social psychological processes measured in this study play a major role in determining student teachers' academic attainment, commitment to learning, and commitment to teaching.

In the next section of this chapter, the theoretical model that guides this study is described in detail. Being synthetic in nature, it combines a number of institutional variables characteristic of the induction perspective, a number of individual student variables characteristic of the reaction perspective, and a number of social psychological variables. Readers will recall that it is these social psychological variables that are expected to mediate the

effects of the institutional and individual variables on the professional identities of student teachers.

THE THEORETICAL MODEL

Figure 1 presents the theoretical model that guides this study. In following the established conventions of status attainment models, it is analyzed in a causal direction from left to right. In doing so, an incremental model building approach made popular by Duncan, Featherman, and Duncan (1972) and Hauser (1972) is used. This approach allows researchers to develop and test theoretical propositions by working back and forth between theory and data; in this study, the theoretical proposition that is tested is the usefulness of the synthetic approach in examining the professional socialization of student teachers. Furthermore, incremental model building not only allows researchers to estimate the magnitude of the effect parameters but it also helps them to determine if the dependent variable is sufficiently explained by the independent variables in the model.

In this regard, the theoretical model is tested through four separate analyses. In the first analysis, the effects of the university background and social background variables on the institutional integration of student teachers are tested. In the second analysis, the effects of the university background, social background, and institutional

UNIVERSITY BACKGROUND SOCIAL BACKGROUND	INSTITUTIONAL INTEGRATION	INDIVIDUAL SOCIAL PSYCHOLOGICAL	ACADEMIC ATTAINMENT	PROFESSIONAL IDENTITY

Years of University
Previous Degree
Program
No. of Credit Hours

Gender
Age
Father's Occupation
Father's Education
Mother's Education
Paid Employment

Interaction with
Professors
Interaction with
Students
Cognitive Demands
Positive Affect

Motivation

Academic Self-
Concept

GPA

Commitment to
Learning

Commitment to
Teaching

Figure 1.   The Theoretical Model

integration variables on the individual social psychological dispositions of student teachers are tested. In the third analysis, the effects of the university background, social background, institutional integration, and individual social psychological variables on the academic attainment of student teachers are tested. Finally, in the fourth analysis, the effects of the university background, social background, institutional integration, individual social psychological, and academic attainment variables on the commitment to learning and commitment to teaching of student teachers are tested.

In sum, it is expected that the university and social background characteristics of students are mediated by their social and academic experiences within faculties of education. Furthermore, it is expected that these experiences, in turn, affect student teachers' motivation and academic self-concepts which ultimately affect their academic attainment and their commitment to learning and commitment to teaching.

SUMMARY

In this chapter, the literature on professional socialization was reviewed. In the first section, the sometimes ambiguous terms of status, role, and identity were examined. Within this context, statuses refer to social positions within society while roles represent the

behavioural or external component, and identities refer to the emotional or internal component of these positions. Other topics such as the rewards and difficulties of role accumulation, identity salience and identity commitment, types of identities, and anticipatory socialization were also discussed to provide a backdrop from which to examine the professional socialization process. The focus of this study, of course, is on the socialization of student teachers but in order to understand the general process, a broad conceptualization of professional socialization was provided.

In the second section, two traditional perspectives of professional socialization--the induction and reaction perspectives--were described. The induction perspective suggests that, in the professional socialization process, factors related to professional schools play a more important role than factors related to students. In contrast, the reaction perspective suggests that student characteristics play a more important role in the overall process than do factors related to professional schools. In reconciling the differences between these two approaches, the synthetic perspective was proposed as a rational way of recognizing the importance of both institutional and individual factors in the process that transforms students into professionals. In fact, it is a synthetic approach that is used to guide the analysis in this study.

In addition to these perspectives of professional socialization, three dimensions of the professional socialization process--education, cognitive orientations, and personal relatedness--were also introduced. Education was described as the knowledge base required for students to become professionals, cognitive orientations were described as the attitudes, skills, and behaviour required by professions, and personal relatedness was described as the motivation of students to become members of their professions. Even though all three dimensions were described as important to the overall process, cognitive orientations and personal relatedness were emphasized because specific aspects of these two dimensions apply directly to the conceptualization of professional identity developed in this study.

In the third section, many of the concepts introduced earlier in the chapter were applied specifically to the professional socialization of student teachers. It was in this section that an expanded conceptualization of professional identity was developed. More specifically, it was argued that in order to effectively examine the professional identities of student teachers, both their commitment to learning as well as their commitment to teaching must be considered. In other words, committed teachers must also be committed learners.

In the final section, the theoretical model that guides the analyses in this study was presented. In sum, it incorporates university background variables, social background variables, institutional integration variables, individual social psychological variables, GPA, and two measures of professional identity as a way of testing the usefulness of the synthetic perspective for examining the professional socialization of student teachers.

CHAPTER 3

METHODOLOGY

In this chapter, five different aspects of the methodology used in this study are examined. A brief background to the study is provided, the sample of students is described, the measurement of the variables in the theoretical model is discussed, the procedures used in the statistical analysis of the data are outlined, and finally, the univariate and bivariate assumptions are addressed.

BACKGROUND

The data for the present study were collected for two previous studies that examined the quality of life of student teachers. The first study (see Clifton et al., 1987) was conducted in 1987 in the Faculty of Education at the University of Manitoba as part of a review mandated by the university senate. A major part of this first study involved the administration of a questionnaire to undergraduate and graduate students. That study was co-directed by Dr. Rodney A. Clifton, Educational Administration and Foundations, and Dr. Lance W. Roberts, Department of Sociology. Other members of the research team were: Dr. Dave Jenkinson, Curriculum: Humanities and Social Sciences, Dr. Janet B. Webster, Educational Psychology,

Shelley Marshall, undergraduate student, and Jamie-Lynn Magnusson, research assistant.

In the autumn of 1991, the Dean of Education, Dr. John Stapleton, requested that the same instrument be used to conduct a follow-up study of only the undergraduate students then enrolled in the Faculty (see Clifton et al., 1992). The 1992 study was also co-directed by Drs. Clifton and Roberts. Other members of the 1992 research team included: Dr. James Welsh, Curriculum: Mathematics and Natural Sciences, graduate students Emily Etcheverry, Shelley Hasinoff, and David Mandzuk, and four research assistants, Bob DeBrouwere, Allison Elliot, Barbara Fuller, and Barbara Vuketz.

THE SAMPLE

In both 1987 and 1992, a stratified random cluster sampling technique was used to select undergraduate students who would receive the "Quality of Student Life" questionnaire[2]. In both years, courses that students were required to take within each year of both the B.Ed. and B.Ed./After Degree programs were identified. Following this, classes of students were selected; 20 percent of the population of students within each year in 1987 and

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[2] Although in 1987, both undergraduate and graduate students were surveyed, it is only the responses of the undergraduate students that are of interest in this study.

approximately 27 percent of the population of students within each year in 1992 were selected using this procedure.

In both years, Dean Stapleton contacted the instructors of the classes that were identified through the sampling procedure; 19 classes were selected in 1987 and 27 classes were selected in 1992. Questionnaires were distributed and completed during instructional time. Informed consent was obtained from all participants prior to the administration of the questionnaires.

Once the questionnaires were completed and collected, they were compiled, coded, and keypunched in order for them to be entered into a data file in the University of Manitoba main-frame computer. In 1987, this work was completed by members of the research team while in 1992, the same work was done by personnel employed at the Winnipeg Area Study in the Department of Sociology. Following this, the data were analyzed by members of the research teams.

Table 1 presents data on the sample size from each year and the number and percentage of questionnaires returned. The designations "1st Year" and "2nd Year" etc. represent the year of the courses that were selected. Since it is possible for students to be enrolled in courses from more than one year, students who were registered in more than one of the selected courses were not included. The table also provides a comparison of the 1992 data with the data collected in 1987. As the table shows, the 1987 sample

included 397 of the 1467 students who were then enrolled in undergraduate courses in the Faculty of Education. This included 14 students from an alternative certification program at the Winnipeg Education Centre (W.E.C.). Of the 397 students in the 1987 sample, 301 completed questionnaires, representing an approximate 76 percent response rate.

Similarly, the table shows that the 1992 sample included 364 of the 1754 students who were then enrolled in undergraduate courses in the Faculty of Education. In this second study, no responses from the Winnipeg Education Centre's students were received. Of the 364 students in the 1992 sample, 261 completed questionnaires, representing an approximate 72 percent response rate.

Table 1

Sample and Return Rates for Undergraduate Students

Year in Program	1987 Data			1992 Data		
	Sample Size	Surveys Returned	%	Sample Size	Surveys Returned	%
1st Year	98	77	79	72	59	82
2nd Year	62	42	68	88	59	67
3rd Year	72	58	81	87	75	86
4th Year	151	110	73	117	68	58
W.E.C.	14	14	100	0	0	0
Total	397	301	76	364	261	72

THE QUESTIONNAIRE

As mentioned in the previous section, the Quality of Student Life questionnaire (see Appendix A) used in both 1987 and 1992 was originally developed by the Sub-committee on Students of the Faculty Review Committee. In 1987, they were assigned the responsibility of examining a number of characteristics of the undergraduate and graduate students enrolled in the Faculty of Education. Specifically, the objective of their research was to measure five major areas: 1) students' perceptions of the quality of their preparation programs, 2) students' perceptions of the quality of life in the Faculty, 3) the entering characteristics of undergraduate students in the Faculty, 4) the grades students earned, and 5) their destinations upon graduation.

Accordingly, Part 1 of the questionnaire included 31 items which asked students about the quality of the programs in the Faculty. The phrase "In the Faculty of Education I have learned..." preceded the items in this section which ranged from "to evaluate theoretical perspectives in education" and "to examine my own teaching critically" to "a considerable amount about the subjects I plan to teach" and "to value the Faculty of Education." For each of these items, students were presented with a Likert-type scale that included five response options ranging from "Definitely Agree" to "Definitely Disagree".

Part 2 included 40 questions which asked about life in the Faculty. The phrase "The Faculty of Education is a place where..." preceded the items in this section which ranged from "I feel proud to be a student" and "I really get involved in my work" to "I am treated with respect" and "Professors listen to what I say". For each of these items, students were also presented with a Likert-type scale that included five response options ranging from "Definitely Agree" to "Definitely Disagree".

Part 3 of the questionnaire asked students for some factual information about themselves. Besides asking about their grade point averages and their plans after graduation, the items in this section asked students about their age and gender, whether or not they had a previous degree, how many credit hours of university work they were taking, the undergraduate program in which they were enrolled, their educational expectations, their time use during a typical week, their fathers' and mothers' educational and occupational levels, and their own motivation and academic self-concepts.

Part 4 of the questionnaire addressed students' social identities and included three separate but related sections. First, students were introduced to the identity categories that were described in Chapter 2. These ranged from kinship and peer identities to romantic and recreational identities. Then, they were presented with a ranking scale which asked

them to rank order these identities in order of importance.
Second, students were asked to rate the importance of each
of these identities on a sliding scale from zero to 100.
Third, students were asked to focus specifically on their
future identities as teachers by completing a 23-item true
or false commitment index that asked them about their
personal thoughts and feelings about being a teacher. Items
in this scale ranged from "With respect to teaching, I don't
care if I make mistakes" to "I am strongly committed to
being a good teacher".

Finally, Part 5 of the questionnaire consisted of an
open-ended section in which students were asked to record
any opinions about life in the Faculty of Education which
had not already been covered in previous sections of the
questionnaire. As readers may recall, some of these
comments from student teachers were used to illustrate
theoretical points in Chapter 2.

MEASUREMENT OF THE VARIABLES

The theoretical model that guided this study was
comprised of four university background variables--years of
university, previous degree, program, and number of credit
hours; six social background variables--gender, age,
father's occupation, father's education, mother's education,
and paid employment; four institutional integration
variables--interaction with professors, interaction with

students, cognitive demands, and positive affect; two individual social psychological variables--motivation and academic self-concept; one academic attainment variable-- grade point average; and two measures of professional identity--commitment to learning and commitment to teaching. Some of these variables were measured by a single item while others were measured by multi-item scales. In this section, abbreviations are provided and descriptive statistics are reported for all variables in the model. These abbreviations are worth noting as they are used in subsequent tables, particularly in Chapter 4. In addition, the inter-item correlations and principal components are reported for variables which are measured by multi-item scales.

University Background Variables

Four university background variables were included in the theoretical model. They were years of university, previous degree, program, and number of credit hours.

Years of University (YEARS). Question 8 of Part III asked students about their previous university experience. Specifically, it asked, "How many years of university education do you have? If you have been a part-time student, then estimate the number of full-time years." The data for this variable are reported in Table 2. Nine of the returned questionnaires had missing data on this question. Students reported previous university education from one to

six years. Approximately 20 percent of the respondents reported having four years of university education; 57 percent reported having less than four years; and approximately 22 percent reported having more than four years of education at the university level. As the table shows, the distribution for the variable is slightly platykurtic.

Table 2

Descriptive Statistics for Years of University

Mean	3.13	Std. Dev.	1.58
Minimum	1.00	Maximum	6.00
Kurtosis	-1.05	Skewness	0.22
Std. Error	0.07	Missing Cases	9 (2%)

Previous Degree (PREVDEG). Question 1 of Part III asked students if they enrolled in the Faculty of Education after completing a previous degree. Specifically, the question asked, "Do you have an undergraduate university degree?" Those students who already possessed an undergraduate degree were coded as "2" and those who did not were coded as "1". There were no missing data for this variable. Almost 76 percent of the students indicated that they did not already hold an undergraduate degree while just over 24 percent reported that they did. Table 3 reports the descriptive statistics for previous degree. As the table illustrates,

the distribution for the variable is slightly platykurtic and skewed to the right.

Table 3

Descriptive Statistics for Previous Degree

Mean	1.24	Std. Dev.	0.43
Minimum	1.00	Maximum	2.00
Kurtosis	-0.53	Skewness	1.21
Std. Error	0.02	Missing Cases	0

Program (PROG). Question 4 of Part III asked students for the program in which they were registered. Specifically, the question asked, "What undergraduate program are you enrolled in?" Although the original response options for this variable ranged from "I have not made a decision yet", coded 1, to "Winnipeg Education Centre", coded 7, these options were recoded in order to create a dichotomous variable reflecting the two basic programs--elementary and secondary. Specifically, response options 1 and 7 were combined with 2 to create a B.Ed. Elementary program total (coded 2) and response options 4, 5, and 6 (B.Ed./B.Music, B.Ed./B.Hc., and University of Manitoba/Red River College program) were combined with 3 to create a B.Ed. Secondary program total (coded 3). Data were missing from 48 (8%) of the respondents for this variable. Using the recoding procedure, just over 47 percent of the respondents were classified as being enrolled in the

elementary program and approximately 44 percent of the
respondents were classified as being enrolled in the
secondary program. Table 4 reports the descriptive
statistics for program. As the table illustrates, the
distribution is platykurtic.

Table 4

Descriptive Statistics for Program

Mean	2.49	Std. Dev.	0.50
Minimum	2.00	Maximum	3.00
Kurtosis	-2.00	Skewness	0.06
Std. Error	0.02	Missing Cases	48 (9%)

Credit Hours (CRHRS). Data on the number of credit
hours in which undergraduate students were enrolled were
derived from question 3 of Part III. Specifically, it
asked, "How many credit hours of university work are you
taking this academic year (Sept. - April)?" Since students'
responses were quite varied, they were recoded in order to
normalize the distribution. Increments of three credit
hours were used because this is the standard unit used at
this specific university. This resulted in a range of
between nine and 39 credit hours. Data were missing for 14
of the cases. By far the largest percentage of students,
approximately 41 percent, were enrolled in the standard 30
credit hours with just over 43 percent enrolled in under 30
credit hours and almost 13 percent of the respondents

enrolled in over 30 credit hours of course work. Table 5
presents the descriptive statistics for credit hours. As
the table illustrates, the distribution is leptokurtic and
skewed to the left.

Table 5

Descriptive Statistics for Credit Hours

Mean	27.31	Std. Dev.	5.77
Minimum	9.00	Maximum	39.00
Kurtosis	2.20	Skewness	-1.22
Std. Error	0.25	Missing Cases	14 (2%)

Social Background Variables

Six social background variables were included in the
theoretical model. They were gender, age, father's
occupation, father's education, mother's education, and paid
employment.

Gender (GEND). Data on gender was provided by
students' self-reports to question 15 of Part III which
asked, "What gender are you?" Males were coded as "1" and
females were coded as "2". Completed questionnaires were
received from 192 males, 34 percent of the sample, and 375
females, 66 percent of the sample, resulting in an overall
total of 567 students. One respondent failed to indicate
his or her gender. Table 6 presents the descriptive
statistics for gender. As the table illustrates, the

distribution for this variable is platykurtic and slightly
skewed to the right. This reflects the higher percentage of
females in the sample.

Table 6

Descriptive Statistics for Gender

Mean	1.67	Std. Dev.	0.47
Minimum	1.00	Maximum	2.00
Kurtosis	-1.54	Skewness	-0.68
Std. Error	0.02	Missing Cases	1

Age. Question 16 of Part III asked students to respond
to the question, "How old are you?" All but 16 or 2.8
percent of the respondents answered the question. Most
students' ages fell within a range of between 17 and 35
years; however, a small number of students fell within a
range of between 35 and 51. For this reason, any students
35 years of age and over were recoded as being 35 in order
to normalize the distribution for this variable. As Table 7
illustrates, the mean age of students was just over 23 years
with almost 62 percent of the students being between the
ages of 17 and 23. Table 7 presents the descriptive
statistics for age. As the table illustrates, the
distribution for the variable is slightly leptokurtic and
skewed to the right.

Table 7

Descriptive Statistics for Age

Mean	23.46	Std. Dev.	4.76
Minimum	17.00	Maximum	35.00
Kurtosis	0.17	Skewness	1.05
Std. Error	0.20	Missing Cases	16 (3%)

Father's Occupation (FAOCC). Data on father's occupation were derived from students' responses to question 19 of Part III which asked, "What are your parents' occupations?" Students were asked to indicate their fathers' occupations by choosing from a list of 15 occupational categories ranging from farm labourers, coded "1" to self-employed professionals, coded "15". The undergraduate students in this sample had fathers employed in a wide range of occupational categories. Just over 40 percent of the students' fathers were involved in unskilled, semi-skilled, or skilled occupations. The remaining 55 percent were supervisors to self-employed professionals including a relatively large number of students' fathers (21%) reported as employed professionals. Twenty-six (5%) of the respondents did not indicate their fathers' occupations. The descriptive statistics for father's occupation are presented in Table 8. As the table shows,

the distribution for this variable is not skewed but it is platykurtic.

Table 8

Descriptive Statistics for Father's Occupation

Mean	9.83	Std. Dev.	3.64
Minimum	2.00	Maximum	15.00
Kurtosis	-1.40	Skewness	-0.01
Std. Error	0.16	Missing Cases	26 (5%)

Father's Education (FAED). Data on father's education were derived from students' self-reports to question 18 of Part III which asked, "What was the highest level of education that your parents received?" Response options ranged from elementary school, coded "1", to completed graduate degree (eg. M.Ed., Ph.D.), coded "9". Data were missing for 13 respondents. For almost 50 percent of the respondents, the highest level of education received by their fathers was high school completion or less. Of fathers who participated in post secondary education, just over 26 percent completed a bachelors degree or higher. Descriptive statistics for father's education are reported in Table 9. As the table illustrates, the distribution for this variable is platykurtic and slightly skewed to the right.

Table 9

Descriptive Statistics for Father's Education

Mean	4.14	Std. Dev.	2.60
Minimum	1.00	Maximum	9.00
Kurtosis	-1.07	Skewness	0.53
Std. Error	0.11	Missing Cases	13 (2%)

Mother's Education (MOED). Question 18 of Part III
asked about the educational levels of students' mothers. As
with the previous variable, the question asked, "What was
the highest level of education that your parents received?"
Response options ranged from elementary school, coded "1",
to completed graduate degree (eg. M.Ed., Ph.D.), coded "9".
Data were missing for 10 respondents. For approximately 55
percent of the respondents, the highest level of education
received by their mothers was high school completion or
less. Of mothers who participated in post secondary
education, almost 16 percent completed a bachelors degree or
higher. Descriptive statistics for mother's education are
reported in Table 10. As the table shows, the distribution
for this variable is slightly platykurtic and slightly
skewed to the right.

Table 10

Descriptive Statistics for Mother's Education

Mean	3.77	Std. Dev.	2.05
Minimum	1.00	Maximum	9.00
Kurtosis	-0.63	Skewness	0.63
Std. Error	0.09	Missing Cases	10 (2%)

Paid Employment (EMPLOY). Question 13 of Part III asked about students' involvement in a variety of academic and non-academic activities. Specifically, the question asked, "How much time do you spend on each of the following activities during a typical week?" Response categories included: attending classes, studying, student teaching and/or voluntary time in schools, and paid employment. It was students' involvement in paid employment that was of interest in this study. Since students' responses were quite varied, this variable was recoded into increments of five hours from zero to 25, in order to normalize the distribution. Over 47 percent of the students reported that they were not employed while 17 percent reported that they worked between 20 and 25 hours per week. Descriptive statistics for paid employment are reported in Table 11. As the table shows, the distribution for this variable is platykurtic and skewed to the right.

Table 11

Descriptive Statistics for Paid Employment

Mean	7.56	Std. Dev.	8.51
Minimum	0.00	Maximum	25.00
Kurtosis	-0.88	Skewness	0.69
Std. Error	0.36	Missing Cases	18 (3%)

Social Psychological Variables

Six social psychological variables were included in the theoretical model. Four were conceptualized as institutional integration variables and two were conceptualized as individual social psychological variables. The institutional integration variables were: interaction with professors, interaction with students, cognitive demands, and positive affect. The individual social psychological variables were motivation and academic self-concept.

Interaction with Professors (INTPR). The Interaction with Professors scale was constructed from eight items found in Part II of the Quality of Student Life questionnaire. It was a Likert-type scale with five possible response options ranging from "Definitely Agree", coded 5, to "Definitely Disagree", coded 1.[3] Using this coding system, a score of

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[3]Readers should note that, in this study, all variables measured by more than one item are presented as Likert-type scales. In this regard, each of these multi-item scales offers students the same response options.

"8" would indicate low interaction and a score of "40" would indicate high interaction. The initial conceptualization for the Interaction with Professors scale was developed by Williams and Batten (1981) and a version of this scale was also used by Bulcock, Whitt, and Beebe (1991). These researchers have argued that students' interactions with their professors have a direct effect on the quality of life that students experience in educational institutions. Roberts and Clifton (1991) tested this scale by using a set of construct validity techniques recommended for the construction and analysis of attitude scale items (see Piazza, 1980). By following these procedures, they expanded the Interaction with Professors scale from six to nine items. However, for the purposes of this study, further construct validity and reliability tests were conducted resulting in an eight-item scale. Preceded by the phrase "The Faculty of Education is a place where...", the eight items in the scale are:

1. ... Professors treat me fairly.
2. ... Professors give me the marks that I deserve.
3. ... People care about what I think.
4. ... Professors take a personal interest in helping me with my work.
5. ... I am treated with respect.
6. ... Professors help me do my best.
7. ... Professors are fair and just.
8. ... Professors listen to what I say.

The inter-item correlations and principal component for Interaction with Professors are reported in Table 12. As the table illustrates, the inter-item correlations range

from 0.29 to 0.66 and are well within the acceptable range
for such scales. These correlations are high enough to
suggest that the eight items are all measuring the same
general construct. Table 12 also reports the factor
loadings which range from 0.42 to 0.62. Since a widely-
accepted range for such scores is between 0.30 and 0.80
(see Kim & Mueller, 1976, p. 71), it suggests that the scale
items are moderately related to the principal component.
This is supported by the alpha reliability coefficient of
0.88.

Table 12

Inter-item Correlations and Principal Component (P/C) for
Interaction with Professors

ITEMS	1.	2.	3.	4.	5.	6.	7.	8.	P/C
1.	1.00								0.62
2.	0.56	1.00							0.42
3.	0.43	0.29	1.00						0.48
4.	0.45	0.34	0.51	1.00					0.55
5.	0.50	0.40	0.57	0.56	1.00				0.58
6.	0.50	0.37	0.45	0.60	0.48	1.00			0.54
7.	0.66	0.59	0.40	0.44	0.48	0.46	1.00		0.61
8.	0.54	0.39	0.48	0.48	0.53	0.50	0.58	1.00	0.58

Eigenvalue = 4.40   Percent of Common Variance = 54.90

Table 13 reports the descriptive statistics for Interaction with Professors. As the table shows, the distribution for this variable is slightly skewed to the left and leptokurtic.

Table 13

Descriptive Statistics for Interaction with Professors

Mean	28.44	Std. Dev.	5.11
Minimum	8.00	Maximum	40.11
Kurtosis	1.17	Skewness	-0.65
Std. Error	0.22	Missing Cases	44 (8%)

Interaction with Students (INTST). The Interaction with Students scale was constructed from six items found in Part II of the Quality of Student Life questionnaire. As with the "Interaction with Professors" scale, this was also a Likert-type scale with five response options ranging from "Strongly Agree", coded 5 to "Strongly Disagree", coded 1. Using this coding system, a score of "6" would indicate low interaction and a score of "30" would indicate high interaction. Roberts and Clifton (1991) also developed the conceptualization for this scale by using Piazza's (1980) construct validity techniques. While their analysis yielded only five items in the scale, the factor analysis conducted for this study produced one additional item that measured the same general construct.

Preceded by the phrase, "The Faculty of Education is a place where...", the six items in the scale were:

1. ... I find it easy to get to know other people.
2. ... Students are very friendly.
3. ... Mixing with other people helps me to understand myself.
4. ... People think a lot of me.
5. ... Other students accept me as I am.
6. ... I get on well with the other students in my class.

The inter-item correlations and principal component for the Interaction with Students scale are reported in Table 14. As the table illustrates, the inter-item correlations range from 0.22 to 0.58, all within the acceptable range for such scales. The size of these correlations suggests that all six items measure the same general construct. Factor loadings are reported in the right hand column in Table 14. They range from 0.54 to 0.74 suggesting that all six items are moderately to highly related to the principal component. This is supported by the calculated alpha reliability coefficient of 0.76. Table 15 reports the descriptive statistics for Interaction with Students. As the table shows, this variable is close to being normally distributed.

Table 14

Inter-item Correlations and Principal Component for
Interaction with Students

ITEMS	1.	2.	3.	4.	5.	6.	PRINCIPAL COMPONENT
1.	1.00						0.69
2.	0.58	1.00					0.74
3.	0.27	0.22	1.00				0.54
4.	0.28	0.28	0.31	1.00			0.60
5.	0.30	0.41	0.31	0.39	1.00		0.74
6.	0.34	0.42	0.24	0.29	0.53	1.00	0.71

Eigenvalue = 2.73   Percent of Common Variance = 45.50

Table 15

Descriptive Statistics for Interaction with Students

Mean	22.55	Std. Dev.	2.98
Minimum	12.00	Maximum	30.00
Kurtosis	0.50	Skewness	-0.26
Std. Error	0.13	Missing Cases	40 (7%)

Cognitive Demands (COGDEM). The Cognitive Demands
scale was constructed from four items found in Part 1 of the
Quality of Student Life Questionnaire. Like the previous
two scales, this scale was also a Likert-type scale with
five response options ranging from "Strongly Agree", coded 5

to "Strongly Disagree", coded 1. Using this coding system, a score of "4" would indicate low demands and a score of "20" would indicate high demands. The initial conceptualization for this scale was developed by Kleinfeld (1975) who has argued that the most effective educational institutions are those that provide students with an optimal combination of high academic standards (cognitive demands) and consistent social support (positive affect). In this scale, students reported their feelings about the academic workload they had experienced in the Faculty of Education. These feelings provided a measure of cognitive demands because they not only addressed the *amount* of material but the *diversity* of the subject matter that students were expected to learn. Preceded by the phrase, "In the Faculty of Education I have learned...", the four items in the scale were:

1. ... a considerable amount about the subjects I plan to teach.
2. ... a considerable amount about the social-emotional development of children.
3. ... a considerable amount about the methodology of teaching.
4. ... a considerable amount about the psychological development of children.

The inter-item correlations and principal component for the scale are reported in Table 16. As the table shows, inter-item correlations vary from 0.20 to 0.59, well within the acceptable range for this kind of analysis. It is clear

from the factor loadings that the four items are either moderately or highly related to the principal component. In particular, Items 2 and 4 are more highly related to the principal component than Items 1 and 3. In general, however, the magnitude of these scores suggests that they are all measuring the same general construct. Even though the alpha reliability coefficient of 0.61 is among the lowest for the scales used in this study, it is within the acceptable range for such research.

Table 16

Inter-item Correlations and Principal Component for Cognitive Demands

ITEM	1.	2.	3.	4.	PRINCIPAL COMPONENT
1.	1.00				0.50
2.	0.21	1.00			0.83
3.	0.21	0.28	1.00		0.55
4.	0.20	0.59	0.20	1.00	0.80

Eigenvalue 1.88   Percent of Common Variance 46.90

The descriptive statistics for cognitive demands are reported in Table 17. The table illustrates that this variable is very close to being normally distributed.

Table 17

Descriptive Statistics for Cognitive Demands

Mean	13.10	Std. Dev.	2.77
Minimum	5.00	Maximum	20.00
Kurtosis	-0.30	Skewness	-0.23
Std. Error	0.12	Missing Cases	13 (2%)

Positive Affect (POSAFF). The positive affect scale
was constructed from 13 items found in Part II of the
Quality of Student Life Questionnaire. As with the other
scales in the model, this scale was also a Likert-type scale
with five response options ranging from "Strongly Agree",
coded 5 to "Strongly Disagree", coded 1. Using this coding
system, a score of "13" would indicate low affect and a
score of "65" would indicate high affect. Williams and
Batten (1979) developed the initial conceptualization for
this scale, Bulcock, Whitt, and Beebe (1991) used a version
of it for their study, and Roberts and Clifton (1991)
assessed its construct validity. By using Piazza's (1980)
technique for the analysis of attitude items, Roberts and
Clifton (1991) expanded the number of items in the scale
from five to 13 items and reported an alpha reliability of
0.93.

The positive affect scale was then once again
reconceptualized for the purposes of this study. More
specifically, five items that were not in the original scale

(items 5, 11, 19, 24, and 33 from Part II) were reverse

coded because they appeared in the negative form. Next,

they were combined with eight of the previous items (items

1, 3, 9, 31, 28, 30, 32, and 35 from Part II) to form a new

measure of positive affect. Finally, ten items in the

original scale (items 2, 7, 8, 13, 20, 25, 27, 34, 37, 39

from Part II) were removed and were incorporated into

another scale used to measure "Commitment to Learning".

In the positive affect dimension, students reported their

perceptions of their university experiences in terms of

their happiness, positive feelings, and general enjoyment.

Preceded by the phrase, "The Faculty of Education is a place

where...", the items in the Positive Affect scale were:

1. ... I feel proud to be a student.
2. ... People look up to me.
3. ... I feel depressed (reverse scored).
4. ... I enjoy being.
5. ... I feel restless (reverse scored).
6. ... I feel lonely.
7. ... I get upset (reverse scored).
8. ... I feel important.
9. ... I am a success as a student.
10.... I really like to go each day.
11.... I learn to get along with other people.
12.... I feel worried (reverse scored).
13.... I feel proud of myself.

The inter-item correlations and principal component for

the Positive Affect scale are reported in Table 18. As the

table shows, the correlations range from -0.03 to 0.62.

There is only one negative correlation and it is, for all

practical purposes, zero. The table illustrates that,

although some items are more highly interrelated than others, they are all moderately to highly related to the principle component which is computed by adding the 13 items together.

The factor loadings appear in the array on the right-hand side of the table. When examining these scores, it is generally assumed that variation in the principal component causes variation in the items. In this context, a widely-accepted range for these scores is between 0.30 and 0.80 (see Kim & Mueller, 1976, p. 71). As Table 18 shows, all factor loadings are within this range. Furthermore, the alpha reliability coefficient for the Positive Affect scale is 0.84.

Table 18

Inter-item Correlations and Principal Component (P/C) for Positive Affect

Items	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	P/C
1.	1.00													0.69
2.	0.50	1.00												0.50
3.	0.34	0.13	1.00											0.64
4.	0.65	0.36	0.38	1.00										0.74
5.	0.32	0.16	0.43	0.41	1.00									0.58
6.	0.18	0.16	0.41	0.29	0.35	1.00								0.57
7.	0.29	0.11	0.51	0.37	0.42	0.43	1.00							0.58
8.	0.40	0.42	0.22	0.37	0.16	0.30	0.15	1.00						0.60
9.	0.17	0.17	0.20	0.20	0.13	0.27	0.20	0.29	1.00					0.43
10.	0.56	0.34	0.41	0.62	0.38	0.28	0.33	0.44	0.25	1.00				0.75
11.	0.20	0.16	0.11	0.25	0.14	0.24	0.14	0.26	0.29	0.23	1.00			0.40
12.	0.11	0.03	0.4	0.19	0.36	0.45	0.54	0.16	0.17	0.22	0.05	1.00		0.46
13.	0.40	0.36	0.28	0.39	0.21	0.27	0.16	0.46	0.39	0.44	0.29	0.12	1.00	0.62

Eigenvalue = 4.56   Percent of Common Variance = 35.10

The descriptive statistics for the Positive Affect scale are reported in Table 19. As the table shows, the distribution for this variable is normally distributed.

Table 19

Descriptive Statistics for Positive Affect

Mean	45.22		Std. Dev.	7.11
Minimum	23.00		Maximum	65.00
Kurtosis	0.13		Skewness	-0.17
Std. Error	0.32		Missing Cases	59 (12%)

Motivation (MOT). Students indicated their level of motivation to do well in university by responding to question 14 of Part III of the questionnaire. Respondents were asked, "Please check how motivated you are to do well in your courses this year." The question presented respondents with a five-point scale with "unmotivated" at one end, coded 1, to "very motivated" at the other end, coded 5. Data were missing for five of the respondents. While approximately 20 percent of the students reported that they lacked motivation to do well in their courses, the vast majority, just over 79 percent, reported average to high motivational levels. Table 20 reports the descriptive statistics for motivation. As the table illustrates, the distribution for this variable is slightly platykurtic and slightly skewed to the left.

Table 20

Descriptive Statistics for Motivation

Mean	3.63	Std. Dev.	1.22
Minimum	1.00	Maximum	5.00
Kurtosis	-0.55	Skewness	-0.65
Std. Error	0.05	Missing Cases	5 (1%)

Academic self-concept (ASC). In question 10 of Part
III of the questionnaire, students were asked, "How good are
you at your university work compared to other students in
your year level?" Response options ranged from "a lot above
average", coded 5, to "a lot below average", coded 1. Data
were missing for six of the students in the sample. By far
the largest group of respondents (over 85%) reported
academic self-concepts in the middle range with only two
percent reporting very low academic self-concepts and only
three percent reporting very high academic self-concepts.
Table 21 reports the descriptive statistics for academic
self-concept. As the table shows, this variable is normally
distributed.

Table 21

Descriptive Statistics for Academic Self-Concept

Mean	3.67	Std. Dev.	0.71
Minimum	1.00	Maximum	5.00
Kurtosis	-0.04	Skewness	-0.10
Std. Error	0.03	Missing Cases	6 (1%)

Academic Attainment

One measure of academic attainment--grade point average--is included in the theoretical model.

Grade Point Average (GPA). Question 11 of Part III of the questionnaire asked students to indicate their GPA. Respondents were offered eight choices, each of which represented a range of GPAs. Coded values for each of the choices were assigned as follows: GPAs of 0.0 to 0.9 were coded 1; GPAs of 1.0 to 1.4 were coded 2; GPAs of 1.5 to 1.9 were coded 3; GPAs of 2.0 to 2.4 were coded 4; GPAs of 2.5 to 2.9 were coded 5; GPAs of 3.0 to 3.4 were coded 6; GPAs of 3.5 to 3.9 were coded 7; and GPAs of 4.0 to 4.5 were coded 8. Data were missing for 16 of the respondents. Approximately 88 percent of the respondents reported GPAs between 2.5 and 3.9. Table 22 reports the descriptive statistics for grade point average. As the table shows, the distribution for this variable is slightly leptokurtic and skewed to the left.

Table 22

Descriptive Statistics for Grade Point Average

Mean	5.96	Std. Dev.	1.01
Minimum	3.00	Maximum	8.00
Kurtosis	0.19	Skewness	-0.53
Std. Error	0.04	Missing Cases	16 (3%)

Professional Identity Variables

Two measures of professional identity were included as the dependent variables in the theoretical model. They were commitment to learning and commitment to teaching.

Commitment to Learning (C-L). The Commitment to Learning scale was constructed from 10 items found in Part II of the Quality of Student Life questionnaire. These items (items 2, 7, 8, 13, 20, 25, 27, 34, 37, 39) reflected students' attitudes towards, and reasons for, learning. Initially, these items were used in the Positive Affect scale but they were removed when the scale was reconceptualized for this study. As with the other multi-item scales in the model, this scale was also a Likert-type scale. Respondents had five options from "Definitely Agree", coded 5 to "Definitely Disagree", coded 1. Using this coding system, a score of "10" would indicate low commitment and a score of "50" would indicate high commitment.

The initial conceptualization for the Commitment to Learning scale was based on the work of Adler (1977) and Crawford (1993) who have argued that individuals need to be committed to both teaching and learning if they are to become effective teachers. A commitment to learning serves two important functions. Not only does it enable teachers to develop a greater sense of self-efficacy but it also plays an important role modelling function in the interactions that teachers have with their students.

Preceded by the phrase, "The Faculty of Education is a place where...", the ten items in the Commitment to Learning scale were:

1. ... The things I learn are important to me.
2. ... I really get involved in my work.
3. ... I like learning.
4. ... I have acquired skills that will be of use to me.
5. ... The things I learn will help me in my life.
6. ... I am given the chance to do work that really interests me.
7. ... The things I am taught are worthwhile learning.
8. ... The work I do is good preparation for my future.
9. ... I have learned to work hard.
10.... I find that learning is a lot of fun.

The inter-item correlations and principal component for the Commitment to Learning scale are reported in Table 23. As the table illustrates, the inter-item correlations range from between 0.28 and 0.66, well within the acceptable range for this kind of analysis. Moreover, the factor loadings range from 0.56 to 0.83, suggesting that all of the items in the Commitment to Learning scale measure the same general

construct. Furthermore, the alpha reliability coefficient for the Commitment to Learning scale is 0.90.

Table 23

Inter-item Correlations and Principal Component (P/C) for Commitment to Learning

Items	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	P/C
1.	1.00										0.79
2.	0.49	1.00									0.66
3.	0.58	0.54	1.00								0.76
4.	0.55	0.31	0.44	1.00							0.75
5.	0.56	0.40	0.52	0.65	1.00						0.76
6.	0.51	0.42	0.45	0.48	0.45	1.00					0.70
7.	0.62	0.43	0.54	0.66	0.62	0.57	1.00				0.83
8.	0.58	0.38	0.49	0.63	0.54	0.51	0.65	1.00			0.78
9.	0.34	0.51	0.44	0.26	0.32	0.28	0.32	0.36	1.00		0.56
10.	0.45	0.46	0.57	0.37	0.42	0.45	0.53	0.45	0.44	1.00	0.70

Eigenvalue = 5.33   Percent of Common Variance = 53.30

The descriptive statistics for Commitment to Learning are reported in Table 24. As the table shows, this variable is normally distributed.

Table 24

Descriptive Statistics for Commitment to Learning

Mean	34.98	Std. Dev.	6.94
Minimum	10.00	Maximum	50.00
Kurtosis	0.21	Skewness	-0.59
Std. Error	0.30	Missing Cases	44 (8%)

Commitment to Teaching (C-T). One of the final
sections of the Quality of Student Life questionnaire
included a 23-item true or false index for assessing
undergraduate students' commitment to their future
identities as teachers. The scale used in this study was
modified slightly from Santee and Jackson's (1979) original
instrument so that it would be more applicable to the
teaching profession. It included a range of items from
those that were mildly worded to those that were strongly
worded. For half of the statements, agreement reflected
commitment and for the other half, disagreement reflected
commitment. After they had been scored in the direction of
commitment and the negative items recoded, a total score was
obtained by summing across all responses. Thus, scores
could have ranged from zero to 23, with the highest scores
indicating greater commitment. Tests for internal
consistency resulted in Kuder-Richardson coefficients of
0.74 and 0.85 and the alpha reliability coefficient
calculated for the scale was 0.72. The 23 items included in
Jackson's (1981) Professional Identity scale were:

1. When people are discussing the topic of teaching, I
   probably will listen and/or join the conversation.
2. If I come across an article related to teaching, I
   probably will read it with interest.
3. If problems develop in my life, I try to think them
   through as they affect my teaching ability.
4. With respect to teaching, I don't care if I make
   mistakes.
5. During the past week, I have had no conversations about
   teaching.

6. During the past week, I have made 10 or more decisions in which my interest in teaching has influenced the decision process.
7. I rarely or never think about how I can be a better teacher.
8. Compared to other concerns, I worry little about how good a teacher I am.
9. If I had to give up something, being a teacher is the last thing I would give up.
10. When I am involved in activities related to teaching, I usually feel indifferent.
11. If I was a better teacher than everyone else, it would make little difference to me.
12. When I can, I seek out situations in which I can express myself as a teacher.
13. Being a teacher is not important to me.
14. I feel bad when I think I am not being a good teacher.
15. I rarely devote much time to my teaching interests.
16. When I meet new people, it is important to me that they know I am a teacher.
17. I typically organize my day so that I can work toward goals that are related to my teaching.
18. Being a teacher is of little value to me.
19. Being a teacher has virtually no effect on my life.
20. I enjoy it when people encourage me to be a teacher.
21. I would feel a great sense of loss if suddenly I were unable to be a teacher.
22. I am strongly committed to being a good teacher.
23. If people could know only one thing about me, I would want them to know I am a teacher.

The descriptive statistics for Commitment to Teaching are reported in Table 25. As the table shows, the distribution for this variable is leptokurtic and slightly skewed to the left.

Table 25

Descriptive Statistics for Commitment to Teaching

Mean	40.16	Std. Dev.	2.93
Minimum	25.00	Maximum	46.00
Kurtosis	1.41	Skewness	-0.60
Std. Error	0.13	Missing Cases	76 (14%)

PROCEDURES

In this section, two critical aspects of the methodology used in the study are examined; specifically, the statistical analysis and the assumptions of multiple regression that apply to the data are addressed. In the first part, the notion of causality as it applies to the structural equation modelling procedure used in the study is discussed. From this perspective, structural equation modelling is presented as a method that allows researchers to align their theories with their data and allows the testing of both the direct and indirect effects of the correlations between variables. In the second part, the univariate and bivariate assumptions are discussed; more specifically, the measurement, normality, homoscedasticity, and linearity of the variables included in the theoretical model are examined. Within this context, it is argued that all 19 variables in the model meet the assumptions at the univariate level.

Statistical Analysis

Many statistical procedures used in the natural and social sciences centre around the notion of causality. Heise (1975) has suggested that causality applies whenever the occurrence of one event is reason enough to expect the production of another. Furthermore, scientific and everyday languages are full of expressions that imply causal relationships between variables. Most researchers conduct a

thorough review of the literature in order to be aware of and understand the causal relationships generally accepted in a particular field. From this review, not only can researchers develop an understanding of the causal relationships that others have examined but they can also expand upon the relationships shown to be important in the literature (see Blalock, 1969, p. 18). In some natural and social sciences, the experiment is the traditional approach for verifying causal connections. However, in other social sciences, the random assignment of subjects to experimental and control groups and the direct manipulation of variables is virtually impossible; for this reason, social scientists have come to rely on the analysis of survey data for testing causal models.

Asher (1976, p. 11) has argued that, regardless of whether one is working in the natural or social sciences, three conditions need to be met in order to conclude that a causal relationship exists. There must be covariation between two variables, there must be a time ordering or at least presumed time ordering between these variables, and other possible causal factors that may be affecting the relationship between the two variables must be eliminated. In the social sciences, the first two conditions are relatively easy to meet but the third is more problematic because variables are not usually directly manipulated; therefore, outside factors can never be totally ruled out.

Nevertheless, at some point, using substantive criteria that are relevant to the area of research, closure must be established and the relationships among a finite set of variables must be examined.

It is often pointed out that causal models used in the social sciences are relatively simplistic given the complexity of social reality. On this point, Blalock (1961, p. 4) has argued that, in order to test causal relationships, simplistic notions of the social world are required. Moreover, he has noted that the bulk of social science research has always examined simple relationships in which relatively few independent variables have been assumed to be responsible for differences in a variety of dependent variables.

One of the most effective ways to test causal relationships is to use a technique called structural equation modelling. This procedure involves diagramming out the interrelationships between independent and dependent variables and then testing them through a series of regression analyses (see Davis, 1971). A distinct advantage of this approach is that it forces researchers to develop structural models which represent the theories that they are attempting to test. In other words, as Boyle (1970, p. 479) has pointed out, "structural equation models not only force a researcher to think in a systematic and explicit manner but they also force him [sic] to test his ideas in a

systematic and explicit manner." Furthermore, Asher (1976,
p. 8) has stated that "thinking causally about a problem and
constructing an arrow diagram that reflects causal processes
may often facilitate a clearer statement of hypothesis and
the generation of additional insights into the topic at
hand."

Structural equation models include both exogenous and
endogenous variables. Exogenous variables are those whose
variability is assumed to be caused by variables outside the
model in question and whose cause is not under
investigation. Endogenous variables, on the other hand, are
variables that are assumed to be determined by exogenous or
other endogenous variables in the model and whose cause is
of interest. Some of the variability in endogenous
variables is also assumed to be affected by extraneous
variables and error variance--these factors are known as
residuals and are usually included in the diagram. For the
theoretical model in this study, the university background
and social background variables are exogenous and the social
psychological, academic attainment, and professional
identity variables are endogenous (see Figure 1).

In order to test the effect parameters of a structural
equation model, a set of equations is used; these equations
come in both standardized and unstandardized forms. With
both, the effect parameters indicate the amount of variation
in a dependent variable that results from a one-unit change

in a independent variable when all other independent
variables are controlled. In the standardized form, each
variable has a mean of zero and a standard deviation of one;
in the unstandardized form, however, each variable has a
mean and a standard deviation which depend on the metric
properties of the variable. Standardized coefficients
permit the comparison of the effects associated with a
number of independent variables on a common dependent
variable, even when the independent variables are measured
on different scales. As a result, it is easy to see the
relative effects that each of the independent variables has
on the dependent variable. However, in comparing models
across groups, the procedures are not as simple. Here, it
is important to take into account differences in the
variances of variables. Since the standardized coefficients
are calculated from scales that are standardized within each
group, a distance of one unit for a given variable is not
usually equal to a distance of one unit in another group.
In comparing models across groups, therefore, unstandardized
coefficients are more appropriate because the measuring
units of the raw data do not change from group to group (see
Kim & Mueller, 1976; Specht & Warren, 1975)[4].

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[4]Some methodologists suggest that examining semi-
partial correlation coefficients is more appropriate than
examining standardized and unstandardized regression
coefficients when assessing the relative effects of
variables in regression models.

In sum, structural equation modelling offers researchers
two important advantages when working with social science
data. Not only does it force researchers to bring their
theory and their data into alignment, but it also allows
researchers to decompose the direct and indirect effects of
the correlations between variables. As readers will see in
Chapter 4, direct effects are those parts of variables'
total effects which are not transmitted by intervening
variables and indirect effects are those parts of variables'
total effects which are mediated by specific intervening
variables (see Alwin & Hauser, 1975, pp. 38-39).
Decomposing the direct and indirect effects of the
correlations between variables enables researchers to
interpret the relationships between independent variables
and dependent variables in a more sophisticated manner than
is possible with most other statistical techniques.

Univariate and Bivariate Assumptions

The basic assumptions that apply to structural equation
models are the same as those that apply to other forms of
multiple regression. These assumptions address the
measurement, normality, homoscedasticity, and linearity of
the variables (see Tabachnick & Fidell, 1989, pp. 130-131).

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[4](...continued)
However, since the publication of Duncan's article,
"Partials, partitions, and paths" in 1970, the general trend
in this kind of sociological research has been to use
regression coefficients for measuring the direct and
indirect effects of variables in structural equation models.

In this chapter, the univariate and bivariate assumptions
are discussed while in the next chapter, the multivariate
assumptions are addressed.

Traditionally, researchers have argued that, in order
to use parametric statistics such as multiple regression,
variables must be measured at either the interval or ratio
levels. However, current thinking in the field is that
parametric statistics can be used with data that do not meet
these criteria (see Asher, 1976; Pedhazur, 1982). As
Clifton (1978, p. 37) has suggested, "it seems that
parametric statistics are robust enough to allow for some
deviations from the assumption that variables must be
measured at the interval or ratio level." In this study,
all of the variables included in the theoretical model were
measured at least at the ordinal level with the exception of
previous degree, program, and gender. Since each of these
variables was measured at the nominal level, their effect
parameters were calculated using "dummy variable analysis"
(see Pedhazur, 1982, pp. 274-289). This technique allows
researchers to code response categories for these kinds of
variables as if they were measured at the ordinal level. In
other words, even though there is no ordinal distinction
between "yes" and "no", "elementary" and "secondary", and
"male" and "female", dummy variable analysis allows
researchers to code them as if there was such a distinction,
thereby permitting such variables to be used in structural

equation models. Therefore, a response coded "1" for previous degree implies "yes" just as a response coded "2" for program implies "secondary", and a response coded "1" for gender implies "males".

As a rule, a theoretical normal distribution is required for all procedures using parametric statistics. Normality is the assumption that each variable and all linear combinations of the variable are normally distributed. To check the univariate normality of the data, the distributions of the variables available through SPSS Frequencies were visually inspected. In general, these distributions were more or less normal--that is, the majority of scores were found in the middle of the distributions with no extreme outliers found in the tails. In addition, skewness and kurtosis levels were also examined; generally speaking, these levels were relatively close to zero. This suggested that the univariate assumption of normality had been met.

Homoscedasticity, another assumption, implies the equal variability of a given variable at all levels of other variables. Researchers usually use bivariate scatterplots to screen for homoscedasticity; when this is done, they want to see an even rather than a flared distribution when one variable is plotted against another. When this process was followed for various pairs of variables in the model,

distributions that were more or less even, were found. This indicated that the bivariate assumption of homoscedasticity had been met; furthermore, it suggested that homoscedasticity at the multivariate level would probably also be found.

The assumption of linearity implies that there is a straight line relationship between two variables. As a rule, linearity, like homoscedasticity, is also assessed by examining bivariate scatterplots. If both variables are normally distributed and linearly related, the scatterplots are oval-shaped. When these scatterplots were inspected, they showed approximate straight-line relationships and oval-shaped distributions for the pairs of variables tested. This indicated that the assumption of linearity had been met at the bivariate level; furthermore, it suggested that the assumption would probably also be met at the multivariate level.

SUMMARY

In this chapter, four major aspects of the methodology used in this study were examined. In the first section, a background was provided by explaining that the data used in the present study were collected as part of two separate studies, one conducted in 1987 and the other conducted in 1992. Both of these studies examined the quality of life of

students in the Faculty of Education at the University of Manitoba. In the second section, the random cluster sampling procedure that was used to select the sample of student teachers in both years was described. Furthermore, the procedures used for collecting, compiling, coding, and keypunching the data were also discussed. In the third section, the Quality of Student Life questionnaire was described in detail. Specifically, it asked about: 1) students' perceptions of the quality of their preparation programs, 2) students' perceptions of the quality of life in the Faculty of Education, 3) the entering characteristics of undergraduate students in the Faculty, and 4) students' grades and destinations upon graduation. In the fourth section, the measurement of the university background, social background, institutional integration, individual social psychological, academic attainment, and professional identity variables in the theoretical model was described. In this regard, descriptive statistics for all 19 variables as well as inter-item correlations and principal component scores for all variables that were measured as scales were provided. In the fifth section, the rationale behind the structural equation modelling procedure used to analyze the data was described. Finally, it was argued that all variables in the model have met the univariate and bivariate assumptions of multiple regression.

CHAPTER 4

RESULTS

In this chapter, the theoretical model that guides the analysis is empirically tested. Before this is done, however, a number of preliminary considerations are discussed. First, the zero order correlations for the variables in the model and the issue of collinearity are examined. Next, the assumptions of multivariate data analysis are discussed. Finally, the effect parameters for "sub-sample" are estimated on all of the independent, intervening, and dependent variables in the model. Once these preliminary considerations have been discussed, the theoretical model is tested using the incremental model building approach described in Chapter 3.

PRELIMINARY CONSIDERATIONS

Zero Order Correlations

Table 26 presents the zero order correlations, means, and standard deviations for all the variables in the model.[5] At this stage of the analysis, what is of most interest are the variables significantly related to the two dependent variables--commitment to learning and commitment to teaching. First, the variables that are significantly related to commitment to learning are examined. Although

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[5]Readers are referred to Chapter 3 for a description of the variable abbreviations used in this and subsequent tables.

there are some significant correlations between the background variables and this dependent variable, by far the highest correlations involve the institutional integration and individual social psychological variables. In fact, all four of the institutional integration variables and one of the individual social psychological variables are significantly related to commitment to learning. More specifically, there is a strong positive relationship between commitment to learning and interaction with professors (.517), interaction with students (.341), cognitive demands (.473), positive affect (.686), and motivation (.452). These high positive correlations suggest that students who have positive interactions with their professors and peers, students who are enrolled in programs with high cognitive demands and social support, and students who are highly motivated are more likely to be highly committed to learning than students who are not exposed to these aspects of institutional integration and who are not highly motivated.

Second, the variables that are significantly related to commitment to teaching are examined. Although there are a few significant correlations between the background variables and this dependent variable, some of the strongest correlations involve the same institutional integration and individual social psychological variables just described. More specifically, interaction with professors (.174), interaction with students (.229), cognitive demands (.161), positive affect (.208), and motivation (.299) are all positively related to commitment

Table 26

Correlation Coefficients, Means, and Standard Deviations for Variables in the Theoretical Model

VARIABLES	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
1. YEARS																			
2. PREVDEG	.537**																		
3. PROG	.180**	.196**																	
4. CRHRS	-.032	.016	.164**																
5. GEND	-.164**	-.179**	-.413**	-.050															
6. AGE	.328**	.210**	.027	-.212**	-.178*														
7. FAOCC	.020	.085*	-.092*	.037	.025	-.098*													
8. FAED	.066	.062	-.047	.030	.031	-.156**	.626**												
9. MOED	-.014	-.035	-.082	.069	.068	-.215**	.381**	.536**											
10. EMPLOY	-.042	-.077	.009	-.131*	.005	-.144*	.054	.033	-.021										
11. INTPR	-.094*	-.097*	-.022	.009	.007	.018	-.071	-.052	-.019	-.013									
12. INTST	.062	.035	-.101*	.055	.051	-.040	.115*	.081	.034	-.046	.468**								
13. COGDEM	.029	-.062	-.143**	.028	.070	-.037	.037	.024	.002	-.028	.296**	.259**							
14. POSAFF	-.277**	-.160**	-.080	.009	.071	-.016	.005	-.013	.067	.012	.562**	.442**	.293**						
15. MOT	-.083	-.107*	-.134**	.018	.142**	.145**	-.085*	-.087*	-.024	-.056	.242**	.179**	.188**	.388**					
16. ASC	.242**	.135**	.114*	.119**	-.100	.199**	.083	.112**	.070	.016	.133**	.176**	-.063	.067	.178**				
17. GPA	.212**	.221**	.074	.079	-.041	.284**	.028	.061	.002	-.059	.129**	.200**	-.057	.070	.198**	.640**			
18. C-L	-.232**	-.207**	-.231**	-.074	.206**	.008	-.027	-.055	.027	-.034	.517**	.341**	.473**	.686**	.452**	-.029	.014		
19. C-T	.075	-.023	-.160**	-.023	.113*	.141**	-.017	-.044	-.020	.054	.174**	.229**	.161**	.208**	.299**	.050	.065	.301**	
20. SUB-SAMPLE	-.130**	-.061	.091*	.035	.024	-.125**	.040	.140**	.149**	.030	.147**	.048	.021	.192**	.122**	.008	.076	.165**	-.037
MEANS	3.13	1.24	2.49	27.31	1.67	23.46	9.83	4.14	3.77	7.56	28.44	22.55	13.10	45.22	3.63	3.67	5.96	34.98	40.16 / 1.46
S.D.	1.58	0.43	0.50	5.77	0.47	4.76	3.64	2.60	2.05	8.51	5.11	2.98	2.77	7.11	1.22	0.71	1.04	6.94	2.93 / 0.50

* p < .05   ** p < .01

to teaching. This suggests that students who have positive interactions with their professors and their peers, students who are enrolled in programs characterized by high cognitive demands and social support, and students who are highly motivated are those more likely to be committed to teaching than students who do not experience these aspects of institutional integration and students who are not highly motivated.

Before discussing the issue of collinearity as it relates to the correlation matrix, there are three additional observations that are worth noting. For instance, although the same institutional integration and individual social psychological variables are significantly related to both dependent variables, it is interesting to note that the strength of the correlations between these variables is substantially less for commitment to teaching than for commitment to learning. This suggests that social psychological factors may play a more important role in fashioning student teachers' commitment to learning than their commitment to teaching. Next, it is curious that, at the zero order level, there is no significant correlation between students' academic attainment (as measured by GPA) and their commitment to learning or their commitment to teaching. This suggests that academic ability may not be nearly as important in developing these kinds of commitments as the kinds of experiences that students have in the

Faculty and their own motivational levels. Finally, it is worth noting that the two dependent variables--commitment to learning and commitment to teaching--are significantly correlated with one another (.301). This suggests that students who are committed to learning are also likely to be committed to teaching.[6]

As noted earlier, one of the problems often associated with correlation matrices is the problem of collinearity. Collinearity is a problem that occurs when variables are too highly correlated. Fox (1991, pp. 10-11) and Tabachnick and Fidell (1989, p. 87) point out that collinearity weakens an analysis by including redundant variables. More specifically, collinearity is a matter of degree--it is a slight problem when variables are correlated at about 0.7, it becomes a serious problem when they are correlated a 0.9, and it is an intractable problem when they are correlated at 1.00, at which time one of the variables is redundant. Fox (1991) and Tabachnick and Fidell (1989) suggest that a correlation matrix should be examined before conducting further analyses and that a bivariate correlation of .70 or more be used to identify relationships between variables that may be of concern.

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[6] It should be noted that, with a large sample such as the one used in this study, many zero-order correlations, while low in value, may still be statistically significant. In other words, with samples this size, researchers must be careful not to read too much into the data.

An examination of the correlation matrix for this study reveals that only three correlations are close to the .70 limit. More specifically, the correlations between commitment to learning and positive affect (.686), academic self-concept and GPA (.640), and father's education and father's occupation (.626) while strong, fall short of the criteria suggested by Tabachnick and Fidell (1989, p. 87). In spite of this, however, the analyses using these variables should be interpreted with some degree of caution.

Now that collinearity has been shown not to be a problem, the multivariate assumptions need to be addressed.

Multivariate Assumptions

As readers will recall, the descriptive statistics reported in Chapter 3 suggested that, in general, all the variables in the model are normally distributed at the univariate and bivariate levels. However, according to Fox (1991), Halli and Rao (1992), and Tabachnick and Fidell (1989), while checking the assumptions at these levels is an important first step, it is inadequate if researchers wish to use parametric methods such as multiple regression analyses. In other words, variables should meet the assumptions of normality, linearity, and homoscedasticity at the univariate, bivariate, and multivariate levels.

Fox (1991, p. 3) suggests that, in order to check these multivariate assumptions, regression diagnostics can be used to determine if the assumptions of multivariate analyses

have been met. In this study, the multivariate assumptions are checked by examining the residual scatterplots, the normal probability plots, and the histograms of standardized residuals, all of which are available with the SPSS statistical package used to conduct the analyses. Since these procedures produced almost 100 pages of output, it was not possible to include the scatterplots and histograms either in the text or in an appendix. Instead, a summary of the results of these three diagnostic procedures are reported in this section.

The first method of checking the multivariate assumptions involves examining the residuals scatterplots. With these scatterplots, one axis represents predicted scores and the other axis represents errors of prediction. In order to satisfy the assumption of normality, the errors of prediction should be normally distributed around each and every predicted dependent variable score. Put more simply, what is of interest in examining these scatterplots is the overall shape of the distribution. Tabachnick and Fidell (1989, p. 131) state that "the residuals scatterplot should reveal a pile-up of residuals in the centre of the plot at each value of a predicted score, and a normal distribution of residuals trailing off symmetrically from the centre."

Examining the residuals scatterplots can also reveal whether or not the relationships between dependent variable scores and errors of prediction are linear and

homoscedastic. Readers will recall that the assumption of
linearity is that there is a straight line relationship
between variables; in this respect, failure of linearity
would be evident with a curved rather than a rectangular
scatterplot. Readers will also recall that the assumption
of homoscedasticity implies the equal variability of a given
variable at all values of the other variables; in this
respect, failure of homoscedasticity would be evident with a
flared distribution in which the band enclosing the
residuals would be unequal in width at all values of the
predicted scores.

An examination of the residuals scatterplots of the 19
variables in the theoretical model reveals that the
assumptions of multivariate normality, linearity, and
homoscedasticity have been met. Generally speaking, the
plots of predicted values of the dependent variables against
residuals are more or less rectangular-shaped, indicating a
normal distribution; furthermore, none of the scatterplots
illustrate either a curved or flared distribution.

A second method for checking the normality of the
distribution of residuals involves inspecting the normal
probability plots. These are plots of residuals in which
their *expected* normal values are plotted against their
actual normal values. Tabachnick and Fidell (1989, pp. 131-
132) point out that "expected normal values are estimates of
the z score a score should have, given its rank in the

original distribution if the original distribution is normal." Furthermore, if the distribution of residuals is normal, the plotted points will fall along a straight line running from the bottom left to the upper right corner of the plot.

Using this general rule of thumb, an examination of the normal probability plots for the variables in the model reveals that, with the exception of a few minor fluctuations, the plotted points for each of the variables fall along a straight diagonal line. The only relationships that stray slightly from this pattern involve GPA and the other variables in the model, although the deviations from the straight line are not serious enough to warrant the transformation of GPA (see Bock, 1975, pp. 156-160).

A third method for checking the normality of the distribution of residuals involves examining the histograms of the standardized residuals. Halli and Rao (1992, pp. 65-66) suggest that the histogram available with the SPSS statistical package is useful in that it contains a tally of the observed residuals in each interval and the number expected in a normal distribution with the same variances and means as the residuals. Moreover, it also superimposes a histogram of expected values on that of the observed.

As was the case when examining the normal probability plots, the relationships between GPA and the other variables are once again the only relationships that show slight

deviations from a normal distribution. These deviations, however, are also not serious enough to justify transforming GPA (see Bock, 1975, pp. 156-60).

In summary, it appears as though all of the variables in the model meet the assumptions of multivariate data analysis. Therefore, since these assumptions have been met, it is now possible to return to an issue raised earlier-- namely, the effect of sub-sample.

Testing for the Effect of Sub-Sample

As stated earlier, the overall sample used for this study is comprised of students from two sub-samples. Students in the 1987 sub-sample were coded as "0" and students in the 1992 sub-sample were coded as "1". In order to test for the effect of sub-sample, this variable was added to the model and a number of significant correlations were found at the zero order level. As Table 26 shows, three of the institutional integration and individual social psychological variables--interaction with professors (.147), positive affect (.192), and motivation (.122) are significantly related to sub-sample. These significant positive correlations suggest that students in the 1992 sub-sample had more positive interactions with their professors, felt more accepted in the Faculty, and were more motivated than students in the 1987 sub-sample. Moreover, there is also a significant positive correlation between commitment to learning and sub-sample (.165) suggesting that students

in the 1992 sub-sample were more committed to learning than students in the 1987 sub-sample.

Although the relationships between the independent, intervening, and dependent variables presented in Table 26 appear to vary according to year, it is important to remember that they represent correlations at the zero order level only. In other words, these correlations are calculated without controlling for other variables in the model. In order to more accurately assess the impact of sub-sample, the effect of other variables must be controlled through multiple regression analyses. The objective of this analysis is to determine how much of the variance in the variables is a function of the year in which the data were collected. If the variable "sub-sample" accounts for considerable variance, then the remainder of the analyses will take the two sub-samples into consideration. If, on the other hand, sub-sample accounts for little variation in the variables, then the 1987 and 1992 sub-samples will be combined for the remainder of the analysis.

Tables B-1 to B4 in Appendix B present the analyses for the effect of sub-sample. In each of these tables, the regression coefficients under Step 1 represent the effects of the independent variables on the dependent variables without entering sub-sample into the equation and the regression coefficients under Step 2 represent the same effects when sub-sample is considered. In Table B-1, the

university and social background variables are regressed on
the four measures of institutional integration; in Table
B-2, the background and institutional integration variables
are regressed on the two individual social psychological
measures; in Table B-3, the background, institutional
integration, and social psychological variables are
regressed on GPA; and finally, in Table B-4, all of the
previous independent variables are regressed on the two
measures of professional identity.

Three points are apparent when examining the analysis.
First, out of the nine standardized regression coefficients
possible with sub-sample entered into the equation, four
represent significant positive relationships at either the
.05, .01, or .001 levels. In this regard, sub-sample has a
significant effect on interaction with professors, positive
affect, motivation, and GPA. This indicates that, compared
to students in the 1987 sub-sample, students in the 1992
sub-sample felt more positive about their interactions with
their professors (.152) and generally felt more accepted in
the Faculty (.175). Moreover, the positive coefficients
also illustrate that these students had higher motivational
levels (.088) and higher GPAs (.087) than students in the
1987 sub-sample. It is worth noting that, while only four
of the nine coefficients are statistically significant when
sub-sample is entered, all nine scores for the 1992 sub-
sample are higher than those for the 1987 sub-sample.

Second, it becomes apparent by examining this analysis that sub-sample has virtually no effect on the amount of variance explained by the model. As the R^2s at the bottom of the tables show, the amount of variance explained when various clusters of independent variables are regressed on the dependent variables does not vary significantly as a function of whether or not sub-sample is entered into the equation. In this respect, the largest difference in R^2s between the 1987 and 1992 sub-samples results when the university and social background variables are regressed on the measures of institutional integration. In this case, there is an increase in explained variance from only 1.9 percent to only 4 percent.

Third, the overall consistency in the standardized regression coefficients from Step 1 to Step 2 suggests that straight line relationships are represented by the data regardless of whether or not sub-sample is included in the equation. In other words, the regression estimates of the exogenous variables do not vary significantly as a function of sub-sample. Given this evidence, a decision was made to conduct the remainder of the analysis by collapsing the data from the 1987 and 1992 sub-samples.

TESTING THE MODEL

In this section, the theoretical model is tested. In doing so, it is divided into four separate analyses. In the first analysis, the effects of the university and social background variables on institutional integration are estimated; in the second analysis, the effects of the university and social background and institutional integration variables on the individual social psychological variables are estimated; in the third analysis, the effects of the background, institutional integration, and individual social psychological variables on academic attainment are estimated; and in the final analysis, the entire model is tested by estimating the effects of the background, institutional integration, individual social psychological, and academic attainment variables on commitment to learning and commitment to teaching. In estimating the parameters of these models, an incremental model building approach is used to provide the broadest perspective possible; that is, various theoretical problems are proposed and tested by working back and forth between the theory and the data (see Clifton, 1978).

Institutional Integration

The first analysis is comprised of two stages--in the first, an initial model relates the university background variables to the four measures of institutional integration

--interaction with professors, interaction with students, cognitive demands, and positive affect. In the second stage, six social background variables are added to the model.

The basic assumption underlying this initial model is that when people enroll in a faculty of education, they expect to be both academically and socially integrated; that is, they not only expect to have positive interactions with their professors and university peers but they also expect to face high academic standards along with the social support necessary to achieve these standards. In this context, it is expected that factors related to the university background of students may have a significant effect on their social and academic integration. For example, students with more years of university experience and students who hold university degrees may find it easier to become socially and academically integrated than students with fewer years of university experience, simply because of the additional time they have spent in a university environment (see Huntington, 1957; Merton, 1957). Moreover, the organization and nature of the program in which students are enrolled may also affect their level of integration (see British Columbia College of Teachers, 1992; Fullan, Wideen, & Eastabrook, 1983).

Table 27 presents the R^2s and standardized and unstandardized regression coefficients for the effect of

university background on the institutional integration

variables. As the R^2s at the bottom of the table indicate,

the cluster of university background measures only account

for between one and six percent of the total variance in the

institutional integration variables. The small size of

these R^2s suggests that the institutional integration of

students is affected by far more than the university

background measures included in this model. Keeping this in

mind, however, the effect parameters for the university

background variables on institutional integration are also

presented in Table 27. In examining these effects and those

presented in subsequent tables, readers should keep in mind

that effects of .250 or greater are considered to be strong,

effects between .250 and .100 are considered to be moderate,

and effects less than .100 are considered to be weak.

One of the most striking findings in this table is that

credit hours is not related to any of the institutional

integration variables. This finding is curious because

students taking more courses might be expected to have more

opportunities for social integration. Moreover, students

with heavier course loads might also be expected to be among

the first to notice the academic standards and social

support inherent in a faculty.

While credit hours appears to be unrelated to

institutional integration, there is a significant positive

effect between years and cognitive demands (.107) and a

significant negative effect between years and positive

affect (-.194). This suggests that students with more years

of university experience find their programs in the Faculty

more demanding and less socially supportive than students

with fewer years of university experience. Generally

speaking, this finding does not support the work of

Huntington (1957) and Merton (1957) who have noted that

medical students become better integrated as they proceed

through their professional programs. It is interesting to

note that, what would seem to be a related variable,

previous degree, does not have a significant effect on any

of the institutional integration variables. This is

surprising because at the zero order level, years and

previous degree are highly correlated (.537) and have

similar effects on three of the four institutional

integration variables. The difference in effect parameters

for years and previous degree suggests that students who

possess previous degrees may perceive their experiences in

the Faculty differently than students who do not possess

previous degrees. In other words, because of their past

experiences in other faculties, these students may not be as

sensitive to the academic standards and social support

present in the Faculty of Education.

One of the most interesting findings in this

preliminary stage of the first analysis is the effect that

Table 27

Standardized and Unstandardized Regression Coefficients and R^2s for the Effect of the University Background Variables on Institutional Integration

Independent Variables	INTPR	INTST	COGDEM	POSAFF
1. YEARS	-.058 (-.176)	.079 (.102)	.107* (.092)	-.194*** (-.243)
2. PREVDEG	-.066 (-.650)	.017 (.375)	-.090 (-.339)	-.049 (-.898)
3. PROG	.006 (.484)	-.131** (-.279)	-.154*** (-.252)	-.037 (-.669)
4. CRHRS	.008 (.041)	.078 (.024)	.058 (.021)	.010 (.057)
R^2	.012	.023	.032	.055

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis.

program has on two of the dependent variables--interaction with students (-.131) and cognitive demands (-.154). These relatively strong negative effects indicate that students in the elementary program have more positive interactions with other students and find their programs more cognitively challenging than students in the secondary program. Considering that approximately 75 percent of the students in the elementary program are females (see Clifton et al.,

1987, 1992) and given what people like Gilligan (1982) say about the importance of social relations in the integration and achievement of females, this effect may be at least partially explained by gender. This possibility is examined more directly when gender, along with five other social background variables, is examined in the next stage of this analysis.

The expanded model is based on the assumption that the institutional integration of students is affected by social background factors such as gender, age, and paid employment as well as the university background factors which have already been considered. That is, besides the institutional characteristics already examined, individual characteristics may also affect the integration of students into a faculty of education (see Tinto, 1975). In this regard, it has been noted that females are more likely than males to benefit from positive interactions with professors and peers (see Chapman & Pascarella, 1983; Gilligan, 1982; Hearn & Olzak, 1981; Velez, 1985). Moreover, it has been observed that students from diverse socioeconomic backgrounds may interact differently with their professors and peers (see Chapman & Pascarella, 1983; Tinto 1975). Finally, it has been noted that students who are employed may find it more difficult to find the time to build positive relationships with professors and university peers than students who are not employed (see Velez, 1985).

Table 28 presents the R^2s and standardized and unstandardized regression coefficients for the effects of the university and social background variables on institutional integration. As the R^2s show, there has only been a minimal change in the amount of variance explained from the previous stage of the analysis. In other words, relatively little variance in institutional integration--between approximately two and seven percent--is accounted for by the combined effects of the university and social background variables.

Considering that some researchers have found socioeconomic status to be linked to institutional integration, it is surprising that neither father's occupation and education nor mother's education have significant effects on the four institutional integration variables. While the effect of father's occupation on interaction with students (.101) and the effect of mother's education on positive affect (.097) are moderately strong, they are not strong enough to be significant at the .05 level. This finding stands in contrast to the work of Chapman and Pascarella (1983, pp. 302-307) who have found that similar measures of socioeconomic background did have an effect on the institutional integration of students, particularly with respect to their interactions with professors. More specifically, they found that while students from lower socioeconomic backgrounds used their

informal contacts with professors for academic purposes, the informal contacts of students from higher socioeconomic backgrounds were more social in nature.

A second finding from this analysis is that paid employment is not significantly related to any of the institutional integration measures. In other words, students' perceptions of their interactions with others and the cognitive demands and positive affect present in the Faculty remain fairly constant, regardless of whether students are employed or not. This contrasts with the work of Velez (1985) who suggests that employment presents a potential role conflict for university students because it dramatically decreases their opportunities for integration with professors and other students.

A third finding reveals that the two university background variables that were significantly related to institutional integration in the first stage of this analysis--program and years--continue to be significant at this stage of the analysis. In particular, program continues to have a significant negative effect on two of the institutional integration variables--interaction with students (-.114) and cognitive demands (-.149), even though these effects are slightly smaller when the social background variables are added. In other words, students in the elementary program still have more positive interactions

Table 28

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects of

the University and Social Background Variables on Institutional Integration

Independent Variables	INTPR	INTST	COGDEM	POSAFF
1. YEARS	-.076 (-.184)	.098 (.106)	.124* (.097)	-.220*** (-.254)
2. PREVDEG	-.062 (-.660)	.004 (.379)	-.095 (-.348)	-.047 (-.909)
3. PROG	-.009 (-.532)	-.114* (-.306)	-.149** (-.280)	-.018 (-.732)
4. CRHRS	.021 (.043)	.057 (.025)	.044 (.023)	.024 (.059)
5. GEND	-.008 (-.553)	.013 (.318)	.007 (.292)	.031 (.762)
6. AGE	.055 (.056)	-.059 (-.032)	-.053 (-.030)	.096 (.078)
7. FAOCC	-.064 (-.083)	.101 (.048)	.037 (.044)	.006 (.115)
8. FAED	-.002 (-.128)	.018 (.073)	.008 (.067)	-.039 (-.176)
9. MOED	.014 (.138)	-.040 (.079)	-.046 (-.073)	.097 (.190)
10. EMPLOY	-.007 (-.028)	-.048 (-.016)	-.034 (-.015)	.019 (.039)
R^2	.019	.038	.037	.067

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis

with other students and find their programs more cognitively challenging than students in the secondary program, even when their social background is taken into consideration.

As suggested earlier, the effect of program may be at least partially accounted for by gender, given the fact that 75 percent of the students in the elementary program are females and almost the same percentage of students in the

secondary program are males. However, when the effect of gender is examined, this is clearly not the case. In other words, the low effect parameters for gender (ranging from only .008 to .031), do not support the claim that programmatic differences in interaction with students and cognitive demands are even partly due to the gender of students.

The other university background variable that was previously related to institutional integration and has a similar effect at this stage of the analysis is years of university. More specifically, the effect of years on cognitive demands has increased from .107 to .124 while the effect of years on positive affect has increased slightly from -.194 to -.220. This suggests that students with more years of university experience find their programs more cognitively demanding and less socially supportive than students with fewer years of university experience, even when the social background variables are controlled. A question that immediately arises is how students' perceptions of high academic standards and low social support affect their motivation and academic self-concepts--this is just one of the questions that is examined in the next analysis which focuses on the effects of the background and institutional integration variables on students' individual social psychological dispositions.

Individual Social Psychological Dispositions

While the first analysis focused on the institutional integration of student teachers, this analysis focuses on their individual social psychological dispositions. In order to accomplish this, the analysis is divided into three stages--in the first, the effects of the university background variables are estimated on motivation and academic self-concept; in the second, the effects of the university and social background variables are estimated on motivation and academic self-concept; and in the third, the combined effects of the university and social background and institutional integration variables are estimated on motivation and academic self-concept.

The basic assumption underlying the first stage of this analysis is that university background factors have an effect on the motivation and academic self-concepts of students. For instance, students with more years of university experience and/or previous degrees may be more motivated and may have higher academic self-concepts than students with fewer years of university experience and students without previous degrees (see Astin, 1982; Chickering, 1974; Pascarella, 1985). Similarly, students taking a greater number of credit hours of university work may be more motivated and may have higher academic self-concepts than students taking fewer credit hours of university work. Finally, the motivation and academic self-

concepts of students may vary according to program. Readers will recall that in the previous analysis, students in the elementary program had more positive interactions with other students and found their courses more demanding than students in the secondary program. Keeping this in mind, this analysis may reveal that programs characterized by positive interactions between students and high academic standards may have a positive effect on the motivation and academic self-concepts of students.

Table 29 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university background variables on the individual social psychological dispositions of students. As the R^2s at the bottom of the table indicate, only from approximately three to eight percent of the variance in motivation and academic self-concept is explained by the variables in this model. The small size of these R^2s suggests that the individual social psychological dispositions of students are affected by far more than the university background variables included in this model. Within this context, however, one of the most striking findings from this analysis is that, as predicted, there is a programmatic difference with respect to one of the dependent variables--motivation. More specifically, the moderate negative effect (-.123) indicates that students in the elementary program are more motivated than students in the secondary program. This suggests, as

Table 29

Standardized and Unstandardized Regression Coefficients and
R^2s for the Effect of the University Background Variables on
the Individual Social Psychological Dispositions of Students

Independent Variables	MOT	ASC
1. YEARS	-.021 (-.041)	.239*** (.023)
2. PREVDEG	-.072 (-.150)	-.005 (-.085)
3. PROG	-.123** (-.111)	.052 (.063)
4. CREDHRS	.039 (.009)	.118** (.005)
R^2	.027	.077

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis

noted in the previous analysis, that the positive
interactions with other students and high cognitive demands
experienced by students in the elementary program, have a
positive effect on their motivational levels. Moreover, in
the third stage of this analysis, the interaction of the
measures of institutional integration with program is
examined.

Two other interesting findings from this analysis
concern the effects of both credit hours and years on

academic self-concept. The significant positive effect of credit hours on academic self-concept (.118) indicates that students who have heavier course loads have higher academic self-concepts than students with lighter course loads. This suggests that students who enroll in more courses think they are better able to cope with heavier course loads than students who enroll in fewer courses. The strong positive effect of years on academic self-concept (.239), on the other hand, suggests that students with more years of university experience have higher academic self-concepts than students with fewer years of university experience. This relationship between years and academic self-concept is consistent with the findings of Astin (1982) and Pascarella (1985) who have reported that, except for first-year undergraduate students, the time that students spend in educational institutions has a positive effect on their academic self-concepts. On a related note, it is possible that the effect of years may be at least partly explained by age; that is, students with more years of university experience are usually older. Therefore, in the next stage of the analysis, the possible intervening effect of age is examined when the six social background variables are added to the analysis.

The second stage of this analysis includes an expanded model that is based on the assumption that the motivation

and academic self-concepts of students are affected by social background factors such as gender, socioeconomic status, and paid employment as well as the university background variables already examined. That is, besides institutional characteristics, the individual characteristics of students may also affect their social psychological dispositions. For instance, Astin (1977) suggests that, during their undergraduate years, the academic self-concepts of males improve more dramatically than the academic self-concepts of females. Moreover, Aitken (1983) argues that the slightly higher achievement levels of females may be due, in part, to their higher levels of motivation. Anderson (1988, p. 173-74), on the other hand, suggests that the socioeconomic background of students has a positive influence on all aspects of the undergraduate experience, including their social psychological dispositions. Finally, Astin (1993) suggests that paid employment may have a negative effect on students' drive to achieve.

Table 30 presents the R^2s and standardized and unstandardized regression coefficients for the effects of the university and social background variables on the individual social psychological dispositions of students. As the table shows, between about 8 and 13 percent of the variance in the two dependent variables is explained by the variables in the model. These R^2s are substantially higher

than those from the first stage of this analysis; therefore,
by adding the social background variables, more of the
variance in motivation and academic self-concept is
explained. Within this context, one of the most noticeable
effects in this analysis is that, even when the social
background variables are added, years continues to have a
positive effect on academic self-concept. Although the
effect has dropped from .239 to .170, it appears, as
Pascarella and Terenzini (1991, p. 173) claim, that students
with more years of university experience generally have
higher academic self-concepts than students with fewer years
of university experience. The fact that this effect has
dropped, however, suggests that one or more of the social
background factors is now explaining some of the variance in
this dependent variable.

A quick glance at Table 30 shows that age is probably
the variable in question because students in senior years
are invariably older. Its strong effect on academic self-
concept (.216) indicates that older students have higher
academic self-concepts than younger students. Interestingly
enough, age has an even stronger effect on motivation (.223)
suggesting that older students not only have higher academic
self-concepts but they are also more motivated than younger
students. This is consistent with the work of Astin (1993)
who has found that students' drive to achieve gradually
increases during their undergraduate years.

One of the more puzzling results in this analysis is the dramatic decrease in the effect of program on motivation (-.077). Readers will recall that, in the previous stage of this analysis, students in the elementary program were found to be more motivated than students in the secondary program. When the social background factors are added, however, the effect drops by almost half. Keeping in mind that about 75 percent of the students in the elementary program are female, it is possible that the effect of program in the first analysis was at least partially accounted for by gender. When the effect of gender on motivation is examined, the moderately strong positive effect (.129) indicates that this is, in fact, true; moreover, it also indicates that females are more motivated than males. These results are similar to those of Aitken (1983), Astin (1993), and Katchadourian and Boli (1985) who have reported that, in general, females are more motivated than males. It is interesting to note, however, that while these same researchers have found that males generally have higher academic self-concepts than females, this is not supported by the data in this study.

One of the most interesting findings from this stage of the analysis is that neither the socioeconomic background factors nor paid employment are significantly related to either motivation or academic self-concept. The standardized regression coefficients for these variables

Table 30

Unstandardized and Standardized Regression Coefficients and R^2s for the Effects of the University and Social Background Variables on the Individual Social Psychological Dispositions of Students

Independent Variables	MOT	ASC
1. YEARS	-.079 (-.042)	.170*** (.024)
2. PREVDEG	-.066 (-.150)	-.018 (-.085)
3. PROG	-.077 (-.120)	.059 (.068)
4. CREDHRS	.081 (.010)	.162*** (.006)
5. GEND	.129** (.125)	-.012 (-.071)
6. AGE	.223*** (.013)	.216*** (.007)
7. FAOCC	-.062 (-.019)	.021 (.011)
8. FAED	-.037 (-.029)	.086 (.016)
9. MOED	.043 (.031)	.060 (.018)
10. EMPLOY	-.016 (-.006)	.071 (.004)
R^2	.084	.126

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis

range from only .086 to -.062 suggesting that the socioeconomic background of students' parents and the employment status of students have relatively no effect on students' motivation and academic self-concepts. This contrasts with the findings of Anderson (1988) and Astin

(1993) who, in their studies of undergraduate achievement and persistence, found that socioeconomic background had a positive effect and employment had a negative effect on students' motivation to achieve.

A final observation from this stage of the analysis shows that credit hours has a stronger effect on academic self-concept than in the previous stage of the analysis (.162). This indicates that previously, the social background factors were suppressing some of the effects of credit hours on academic self-concept. Furthermore, it also indicates that students taking more credit hours of course work generally have higher academic self-concepts than students taking fewer credit hours of course work. In other words, these results suggest that students with heavier course loads believe that they have the ability to cope with the demands of the extra work involved. On this note, it is interesting to speculate about the effects that institutional integration variables may have on the social psychological dispositions of students. In other words, are students' perceptions of the academic standards and social support in a faculty related to the number of courses in which they are enrolled? Furthermore, are these perceptions also related to students' academic self-concepts? These questions and others are examined in detail when the four measures of institutional integration are added to the analysis.

The results of the third stage of this analysis are found in Table 31 which reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university background, social background, and institutional integration variables on students' motivation and academic self-concepts. The assumption underlying this stage of the analysis is that the social psychological dispositions of students may be affected not only by a variety of background factors but also by factors related to students' institutional integration. More specifically, it is expected that students who have positive interactions with their professors and peers may be more likely to be motivated and may have high academic self-concepts than students who do not have positive interactions with these significant others. This is supported by the findings of Astin (1977, 1993), Feldman and Newcomb (1969), and Pascarella and Terenzini (1991) who discuss the importance of faculty members and university peers on students' drive to achieve and overall development. Moreover, it is also expected that there may be a positive relationship between cognitive demands and positive affect and students' social psychological dispositions. That is, students who are enrolled in programs that are warm but demanding may be more motivated and may have higher academic self-concepts than students who are not enrolled in such programs (see Clifton & Roberts, 1993; Kleinfeld, 1975).

As Table 31 indicates, almost 22 percent of the variance in motivation and almost 18 percent of the variance in academic self-concept is explained by the combination of background and institutional integration variables. These R^2s represent a dramatic increase in the amount of variance explained when compared to the R^2s from the previous stage of this analysis. Within this context, however, it is interesting to note that the only effect that increases when the institutional integration variables are added to the analysis is the effect of years on academic self-concept. More specifically, this effect increases from .170 to .189 when the institutional integration variables are added. This suggests, as stated previously, not only that students with more years of university experience have higher academic self-concepts than students with less experience but that this effect is slightly suppressed by the social background variables in the previous stage of this analysis.

It is also interesting to note that the significant effects of the three background variables that were previously related to motivation and academic self-concept-- credit hours, age, and gender--have dropped at this stage of the analysis. For instance, the effect of credit hours on academic self-concept drops slightly from .162 to .157 when the institutional integration variables are added. This

Table 31

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects of
the University Background, Social Background, and Institutional Integration Variables
on the Individual Social Psychological Dispositions of Students

	Independent Variables	MOT	ASC
1.	YEARS	-.015 (-.041)	.189*** (.025)
2.	PREVDEG	-.043 (-.144)	-.023 (-.086)
3.	PROG	-.059 (-.117)	.056 (.070)
4.	CRHRS	.069 (.009)	.157*** (.006)
5.	GEND	.118* (.120)	-.013 (-.072)
6.	AGE	.195*** (.012)	.207*** (.007)
7.	FAOCC	-.067 (.018)	.020 (.011)
8.	FAED	-.024 (-.028)	.086 (.017)
9.	MOED	.014 (.030)	.055 (.018)
10.	EMPLOY	-.019 (-.006)	.073 (.004)
11.	INTPR	.010 (.013)	.115* (.008)
12.	INTST	.011 (.021)	.133** (.012)
13.	COGDEM	.074 (.020)	-.134** (.012)
14.	POSAFF	.334*** (.009)	.026 (.006)
R^2		.216	.175

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis

suggests that, while students with heavier course loads have higher academic self-concepts than students with lighter course loads, at least some of the variance in students' academic self-concepts is explained by measures of institutional integration such as students' interactions with their professors and peers.

Similarly, while age is still strongly related to both motivation and academic self-concept, its effects have dropped from .223 to .195 and from .216 to .207 respectively. In other words, while the institutional integration variables explain some of the variance in the dependent variables, it is clear that older students tend to be more motivated and have higher academic self-concepts than younger students.

Interestingly enough, the effect of gender on motivation also drops slightly from .129 to .118. In this case, however, it is clear that the decreased effect of this variable on motivation is due partly to the strong influence of positive affect (.334). This indicates that, while females are generally more motivated than males, at least part of the effect of gender is explained by how socially supportive students find their experiences in the Faculty.

As Table 31 illustrates, three other institutional integration variables are also significantly related to the individual social psychological dispositions of students-- particularly, their academic self-concepts. More

specifically, interaction with professors and interaction with students are both significantly related to students' academic self-concepts (.115 and .133 respectively). These positive effects suggest that, in order for students to build strong academic self-concepts, they need to have warm, caring experiences with significant others in a faculty of education. These findings are consistent with the work of Astin (1993) who argues that students' sense of self-efficacy in an academic environment is influenced, to a large degree, by how well integrated they are with others in that environment.

Finally, of particular interest at this stage of the analysis is the negative relationship between cognitive demands and academic self-concept (-.134). This moderate negative effect suggests that students' perceptions of high academic standards have a negative influence on how well they think they can do in their course work. Moreover, when this effect is coupled with the influence of positive affect on motivation (.334), it suggests that, while a supportive institutional environment increases students' motivation, high academic standards decrease their academic self-concepts. Since we know that academic self-concept and academic attainment are strongly related to each other (see Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979), it is interesting to speculate about the effect that high cognitive demands may have on students' grade point

averages. Within this context, the relationship between positive affect, cognitive demands, and GPA is examined in the next analysis.

Academic Attainment

This analysis examines the factors related to the academic attainment of student teachers. In doing so, it is divided into four stages--in the first stage, the effects of the university background variables are estimated; in the second stage, the effects of both the university and social background variables are estimated; in the third stage, the effects of the university background, social background, and institutional integration variables are estimated; and in the fourth stage, the combined effects of the university and social background, institutional integration, and individual social psychological variables are estimated on GPA.

The basic assumption underlying the first stage of this analysis is that university background factors may have an effect on the academic attainment of student teachers. For instance, it is expected that students with more years of university experience and students with previous degrees will have higher GPAs than students with fewer years of university experience and students without previous degrees (see Pascarella & Terenzini, 1991, pp. 369-370). Similarly, students in one certification program may academically outperform students in another certification program. As readers will recall from the previous analysis, students in

the elementary program were more motivated than students in the secondary program. Since motivation is generally considered to be an essential prerequisite for academic attainment, it is possible that students in the elementary program may earn higher GPAs than students in the secondary program. Finally, given the previous finding that students taking more courses had higher academic self-concepts and given the well-documented, positive relationship between academic self-concept and GPA (see Brookover et al., 1979), it is possible that students taking more courses may earn higher GPAs than students taking fewer courses. Moreover, given these two findings, another possibility is that academic self-concept may play an important mediating role between credit hours and GPA.

Table 32 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university background variables on academic attainment. As the table illustrates, only about seven percent of the variance in GPA is explained by the institutional variables included in the model. Within this context, it is worth noting that program is not significantly related to GPA at this stage even though there were programmatic differences in the previous analysis. In other words, even though students in the elementary program are more motivated, this does not translate into higher achievement. On the other hand, two other university background variables are

Table 32

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects of the University Background Variables on Academic Attainment

Independent Variables	GPA
1. YEARS	.135** (.033)
2. PREVDEG	.145** (.122)
3. PROG	.008 (.091)
4. CREDHRS	.079 (.008)
R^2	.068

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis

significantly related to academic attainment at this stage of the analysis. More specifically, the positive effects of years and previous degree on GPA (.135 and .145 respectively) suggest that students with more years of university experience and students with previous degrees are more likely to have higher GPAs than students with fewer years of university experience and students without previous degrees. This finding is consistent with the notion that

the longer students are members of an educational institution, the better acquainted they are with its academic expectations, and the greater their chances are for academic success (see Huntington, 1957; Merton, 1957). This finding also raises a question, however, about the role that age plays in the relationship between the university background variables and GPA. In other words, are the effects of both years and previous degree direct effects or are they partially explained by age? This effect and others are examined more closely in the next stage of the analysis when the social background variables are added to the model.

The expanded model is based on the assumption that the academic attainment of student teachers is affected by social background factors such as gender, socioeconomic status, and paid employment as well as the university background variables already examined. For instance, there is some indication in the research literature that, at the university level, females earn higher GPAs than male students (see Astin, 1993, p. 188). Moreover, White, Reynolds, Thomas, and Gatzlaff (1993) argue that, at best, socioeconomic status has a minimal effect on academic attainment. Finally, Astin (1993) and Pascarella and Terenzini (1991) suggest that, with the exception of on-campus employment, students who are employed achieve less than students who are not employed.

Table 33 reports the R^2s and standardized and
unstandardized regression coefficients for the effects of
the university and social background variables on academic
attainment. As the table illustrates, almost 14 percent of
the variance in GPA is explained by the two clusters of
background variables. This is rather significant in that
the amount of variance explained has more than doubled from
the first stage of the analysis. In fact, because the
effect of age is so strong (.298), we can conclude with some
certainty that the increase is due primarily to the addition
of age to the analysis. Within this context, it is
interesting to note that the effects of two university
background variables--years and previous degree--decrease at
this stage of the analysis. By far the most dramatic
decrease in these two effects is the effect of years. More
specifically, the effect of years decreases from .135 in the
first stage to .045 suggesting that much of the effect of
this variable was actually explained by age and other social
background variables. Another university background
variable that decreases at this stage of the analysis is
previous degree. In this regard, the effect of previous
degree drops from .145 to .133. Although this is not as
dramatic a drop as with years, it indicates that students
with previous degrees are more likely to have higher GPAs
than students without previous degrees, although some of
this effect is due, in part, to age.

Table 33

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects

of the University Background and Social Background Variables on Academic Attainment

Independent Variables	GPA
1. YEARS	.045 (.034)
2. PREVDEG	.133** (.120)
3. PROG	.039 (.097)
4. CREDHRS	.136** (.008)
5. GEND	.062 (.101)
6. AGE	.298*** (.010)
7. FAOCC	-.028 (-.015)
8. FAED	.099 (.023)
9. MOED	.018 (.025)
10. EMPLOY	.012 (.005)
R^2	.139

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis

As already mentioned, only one of the social background
variables--age--is significantly related to GPA (.298).
This strong positive effect suggests that older students
earn higher GPAs than younger students. Although age would
seem to be a logical variable to examine in relation to
academic attainment, no conclusive findings regarding this

variable were found in the literature. That is, it seems entirely plausible that older students with more experience at the university level would do better academically than their peers who are younger and are less experienced.

The only other variable significantly related to GPA is credit hours. As readers will recall from the first stage of the analysis, the effect between this variable and GPA was only .079. When the social background variables are added, however, the effect increases to .136 suggesting not only that students taking more courses have higher GPAs but that the effect of credit hours was previously suppressed by the social background variables. That is, students who are enrolled in more courses generally have higher GPAs than students who are enrolled in fewer courses. This finding raises the question, however, of the role played by the social and academic integration of students in the attainment process. In other words, does institutional integration play a significant role in the academic attainment of older students, students who have previous degrees, and students who are taking more courses, or do these students succeed academically simply by virtue of their background characteristics? This question and others are examined more closely when the institutional integration variables are added to the model in the third stage of the analysis.

The expanded model is based on the assumption that the academic attainment of students is affected not only by their university and social background characteristics but also by factors related to their social and academic integration. In other words, it is expected that the interactions that students have with their professors and university peers may have a positive influence on their academic attainment (see Astin, 1993; Stoecker, Pascarella & Wolfle, 1988). Similarly, it is expected that students who experience high cognitive demands along with the emotional support to meet these demands, may also earn higher GPAs than students who do not have these kinds of experiences (see Clifton & Roberts, 1993; Kleinfeld, 1975).

Table 34 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university background, social background, and institutional integration variables on GPA. As the table illustrates, the variables in the model explain almost 20 percent of the variance in GPA. This represents over a six percent increase from the last stage of this analysis. Within this context, the first effects that one notices are once again, the effects between age and credit hours on GPA. In particular, it is worth noting that the effects for these variables have remained relatively constant from the previous analysis. The slight decrease in the effect of credit hours on GPA (from .136 to .129) and the relatively

constant effect of age on GPA (approximately .298) suggest that there is very little interaction between these variables and the four measures of institutional integration. That is, students who are taking more courses and students who are older are likely to have high GPAs regardless of whether they are socially and academically integrated within the Faculty of Education.

This is not to say that factors related to institutional integration are not related to the academic attainment of students. In fact, in this third stage of the analysis, both interaction with students and cognitive demands are significantly related to GPA. More specifically, the strong positive effect of interaction with students (.180) suggests that students who have positive interactions with their university peers are more likely to earn higher GPAs than students who do not have these kinds of interactions. This finding is consistent with the work of Pascarella and Terenzini (1991) who argue that students' peers serve not only as important social contacts but also as academic role models for each other. In other words, students' interactions with their peers are important because they may expose students to a social network of other achievement-oriented individuals, thereby generating and reinforcing higher aspirations and goals (see Pascarella & Terenzini, 1991, p. 390).

Table 34

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects of the University Background, Social Background, and Institutional Integration Variables on Academic Attainment

Independent Variables	GPA
1. YEARS	.051 (.035)
2. PREVDEG	.127* (.121)
3. PROG	.043 (.099)
4. CRHRS	.129** (.008)
5. GEND	.061 (.101)
6. AGE	.297*** (.010)
7. FAOCC	-.036 (-.015)
8. FAED	.097 (.023)
9. MOED	.018 (.026)
10. EMPLOY	.017 (.005)
11. INTPR	.088 (.011)
12. INTST	.180*** (.018)
13. COGDEM	-.117* (-.017)
14. POSAFF	.010 (.008)
R^2	.193

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis

The only other institutional integration variable that is significantly related to academic attainment is cognitive demands. The moderate negative effect of cognitive demands on GPA (-.117) suggests that when academic standards are raised, achievement drops. Anderson (1988) and Astin (1993) have compared the academic attainment of students in selective and less selective colleges and have also found a negative effect between demanding academic standards and attainment. In their research, they found that the high grading standards characteristic of selective colleges actually had a negative impact on both the academic self-concepts and GPAs of students.

Although at first glance, this trend may appear counterproductive to the general aims of a university education, it is possible that the negative effect between cognitive demands and GPA may be partially accounted for by the social psychological dispositions of students. In other words, the motivation and academic self-concepts of students may play an important intervening role between their sense of institutional integration and their later academic attainment. This possibility is examined in the final stage of this analysis which adds motivation and academic self-concept to the model.

Table 35 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university background, social background, institutional

integration, and individual social psychological variables
on academic attainment. This expanded model is based on the
assumption that, besides the background and institutional
integration factors already examined, the social
psychological dispositions of students may also be important
predictors of academic attainment (see Astin, 1993, p. 188).
As the table illustrates, over 47 percent of the variance in
GPA is explained by the variables in the model. This
represents an increase of over 28 percent in explained
variance from the previous stage of the analysis. Within
this context, however, it is interesting to note that, of
the five variables previously found to be related to GPA--
previous degree, credit hours, age, interaction with
students, and cognitive demands--only the effect of previous
degree is stronger at this stage of the analysis. More
specifically, the effect of previous degree on GPA increases
from .127 to .143 suggesting that the effect of this
variable was suppressed by motivation and academic self-
concept in the previous stage of the analysis. This
indicates quite unequivocally, that students with previous
degrees are more likely to earn higher GPAs than students
without previous degrees, regardless of how well they are
socially and academically integrated into a faculty of
education.

Although the effect of previous degree increases in
this stage of the analysis, the effects of the four other

university background, social background, and institutional integration variables decrease. In particular, the effect of credit hours drops from .129 to a level of non-significance (.035) suggesting that the number of courses students take is not nearly as important as their social psychological dispositions. In other words, it is the higher motivation and higher academic self-concepts of these students which affect their GPAs and not the number of courses they are taking, as previously suggested.

The effect of cognitive demands behaves in a similar fashion in that it drops from -.117 in the previous stage to -.047. This indicates that it is the motivation and particularly, the academic self-concepts of students that affect their GPAs rather than the cognitive demands that they face in a faculty of education.

It is also interesting to note that the effect of age drops from .297 to .166 and the effect of interaction with students drops from .180 to .104. The decrease in these effects also suggests that it is the motivation and academic self-concepts of students that affect their GPAs more than their age and the nature of their interactions with other students. Although the decreases in these effects are substantial, it is still clear that the age of students and the interactions that they have with their peers have a significant effect on academic attainment, regardless of students' individual social psychological dispositions.

Table 35
Standardized and Unstandardized Regression Coefficients and R^2s for the Effects of
the University Background, Social Background, Institutional Integration, and Individual
Social Psychological Variables on Academic Attainment

	Independent Variables	GPA
1.	YEARS	-.055 (-.029)
2.	PREVDEG	.143*** (.098)
3.	PROG	.015 (.080)
4.	CREDHRS	.035 (.006)
5.	GEND	.060 (.083)
6.	AGE	.166*** (.009)
7.	FAOCC	-.042 (-.013)
8.	FAED	.050 (.019)
9.	MOED	-.014 (-.021)
10.	EMPLOY	-.023 (-.004)
11.	INTPR	.022 (.009)
12.	INTST	.104* (.014)
13.	COGDEM	-.047 (-.014)
14.	POSAFF	-.029 (-.009)
15.	MOT	.072 (.033)
16.	ASC	.565*** (.055)
R^2		.471

*$p < .05$ **$p < .01$ ***$p < .001$

[a] Unstandardized coefficients in parenthesis

That is, students who are older and students who have positive interactions with their university peers earn higher GPAs than younger students and those who do not have these kinds of interactions.

By far the most impressive finding in this stage of the analysis is the substantial positive effect of academic self-concept on GPA (.565). This effect not only indicates that students with high academic self-concepts earn higher GPAs than students with lower academic self-concepts, but it also confirms the findings of Astin (1993) and Brookover et al. (1979) who have consistently found a strong positive relationship between these two variables. The strong effect of academic self-concept also performs one other function-- it explains why the effects of the four previously-discussed variables drop when the social psychological variables are added to the model. In fact, the strength of this effect, coupled with the significant effects of previous degree and age suggest quite strongly that, if faculties of education are interested in recruiting prospective teachers with the most academic potential, they should consider giving priority to older students, students with previous degrees, and students with strong academic self-concepts. At the same time, these results suggest that the human and financial resources that have been invested in programs aimed at better integrating students into faculties of

education, may not necessarily result in higher achieving students.

Up until this point in the analysis, all the effects that have been calculated have been direct effects, although some of the discussion has implicitly referred to indirect effects. Direct effects, as described in the previous chapter, are the effects between variables that remain when intervening variables are held constant. While calculating direct effects provides researchers with a reasonable idea of how variables are related to each other, there is always the possibility that other intervening variables may be transmitting part or even all of the effects being examined. This is why researchers often calculate both direct and indirect effects when examining cause and effect relationships. Readers will recall that indirect effects are those parts of a variable's total effect which are mediated by intervening variables between the cause and effect of interest. The calculation of direct and indirect effects is done by successively estimating reduced-form equations in a recursive model. As Alwin and Hauser (1975, p. 44) state:

> The successive computation of reduced-form equations
> for a particular dependent variable begins with a
> model which contains only exogenous variables...then
> successively adds the variables which intervene,

proceeding in sequence from cause to effect until the intervening variables are exhausted. This generates all the information required to decompose total effects into their various mediated and unmediated parts.

Table 36 reports the total, indirect, and direct effects of the predetermined variables on the academic attainment of student teachers. For the sake of parsimony, a general rule of thumb of .50 or greater is used to guide the following discussion; that is, only the indirect effects deemed substantial--.50 and above--are discussed in any detail.

The table shows quite clearly that very little of the university and social background effects are mediated by the institutional integration variables. In fact, the highest indirect effect is only .008 for the mediated effect of father's education on GPA. On the other hand, many of the effects of the university and social background and institutional integration measures are mediated by the individual social psychological variables. For example, the variable most strongly mediated by the social psychological variables is age (.131). By using a formula that divides the indirect effect by the sum of the indirect and direct effects, 44 percent of the effect of age is found to be mediated by students' social psychological dispositions-- particularly, their academic self-concepts. In other words,

older students are generally more motivated and have higher
academic self-concepts and students who have these strong
social psychological dispositions are more likely to earn
higher GPAs.

Years is a second variable that is mediated
substantially by the social psychological variables. At
first glance, however, the indirect effect of .106 is
somewhat puzzling in comparison to the total effect for
years which is only .045 and the direct effect which is
-.055. In cases where the direct and indirect effects have
different signs, Alwin and Hauser (1975, p. 40) suggest that
"a possible solution is to express the variable's components
as proportions of the sum of absolute values." In other
words, the negative signs for the indirect effect (-.006)
and the direct effect (-.055), and the positive sign for the
total effect (.045) can be disregarded and the formula
described above can be used for calculating the percentage
of the mediated effect. When this is done, approximately 63
percent of the effect of years is found to be mediated by
students' social psychological dispositions. This may be
explained in two ways. Perhaps students who complete their
undergraduate programs have stronger social psychological
dispositions than students who drop out at some point along
the way. On the other hand, perhaps as students proceed
through their programs, they gradually develop stronger

Table 36

Total, Indirect, and Direct Effects of the Predetermined Variables on the

Academic Attainment of Student Teachers

Dependent Variable	Predetermined Variables	Total Effects	Indirect Effects via		Direct Effects
			Institutional Integration	Individual Soc. Psych.	
GPA	YEARS	.045	-.006	.106	-.055
	PREVDEG	.133	.006	-.016	.143
	PROG	.039	-.004	.028	.015
	CRHRS	.136	.007	.094	.035
	GEND	.062	.001	.001	.060
	AGE	.298	.001	.131	.166
	FAOCC	-.028	.008	.006	-.042
	FAED	.099	.003	.047	.050
	MOED	.018	.000	.032	-.014
	EMPLOY	.012	-.005	.040	-.023
	INTPR	.088	--	.066	.022
	INTST	.180	--	.076	.104
	COGDEM	-.117	--	.070	-.047
	POSAFF	.010	--	.039	-.029

social psychological dispositions that later lead to higher

academic attainment.

A third variable that is mediated by the social

psychological variables is credit hours. The indirect

effect of .094 indicates that about 69 percent of the effect

of credit hours is mediated by students' social

psychological dispositions. This suggests that it is not

just the number of courses that students take which affects

their GPAs; more importantly, it is their social

psychological dispositions, particularly their academic

self-concepts, that these students with heavier course loads

bring to their university experiences.

A final group of variables that is mediated by the social psychological variables are the measures of institutional integration. With perhaps the exception of positive affect, these variables are mediated quite substantially by the social psychological variables. This indicates that it is not simply the interactions that students have with their professors and peers and it is not just the Faculty's cognitive demands that influence students' grades but the social psychological dispositions that students bring to these interactions. For instance, the strongest indirect effect of .076 for interaction with students indicates that 42 percent of this effect is mediated by students' motivation and academic self-concepts. Surprisingly, although the total effect of cognitive demands is negative (-.117), the mediated effect of .070 indicates that about 60 percent of the effect is mediated by students' social psychological dispositions. Finally, it is interesting to note that of the four institutional integration variables, positive affect generally has the lowest direct, indirect, and total effect. This suggests that students' general perceptions of the support available in the Faculty may have less of an impact on the academic attainment of students than specific encounters that students have with their professors and peers.

As can be seen, calculating indirect effects provides researchers with a much clearer understanding of how

variables are related to each other. In fact, neglecting to examine indirect effects may, in some cases, lead to limited interpretations of the data and the development of policies which are less sensitive to the complexity of specific situations. In this analysis, the relatively important role of the individual social psychological variables and the comparatively insignificant role of the institutional integration variables indicates quite clearly that it is the dispositions of students rather than the integrative characteristics of the institution that have the largest effect on academic attainment. Obviously, this finding alone has important implications for faculties of education which are interested in attracting and retaining the most academically able students. These implications and others are discussed in greater detail in Chapter 5. Before this is done, however, the final analysis which focuses on the professional identity of student teachers is presented.

Professional Identity

This analysis examines factors related to the professional identities of student teachers. As readers will recall, professional identity has been conceptualized as being comprised of student teachers' commitment to learning as well as their commitment to teaching. In other words, in order for student teachers to identify with the teaching profession, they must be committed as learners and committed as prospective teachers. In order to examine

student teachers' commitment to learning and commitment to
teaching, this final analysis is divided into five stages--
in the first stage, the effects of the university background
variables are estimated; in the second stage, the effects of
the university and social background variables are
estimated; in the third stage, the effects of the university
background, social background, and institutional integration
variables are estimated; in the fourth stage, the effects of
the university and social background, institutional
integration, and individual social psychological variables
are estimated; and in the fifth stage, the combined effects
of the university and social background, institutional
integration, individual social psychological, and academic
attainment variables are estimated on commitment to learning
and commitment to teaching, as the fully recursive model is
examined.

The basic assumption of the first stage of this
analysis is that university background factors may be
related to the professional identities of student teachers.
In this regard, one variable that is expected to have a
positive effect on professional identity is years. This is
consistent with the findings of Fredricks and Mundy (1976),
Huntington (1957), Kadushin (1969), Merton (1957) and
Zabarenko and Zabarenko (1976) who suggest that, as students
near the end of their professional education, they
increasingly identify with their chosen professions.

Another university background variable that is expected to be significantly related to professional identity is program. Since there were some indications in the first analysis that students in the elementary program were better integrated with the Faculty than students in the secondary program, these feelings of integration may have a positive effect on the professional identities of student teachers in the elementary program.

Table 37 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university background variables on commitment to learning and commitment to teaching. As the R^2s in the table show, approximately 10 percent of the variance in commitment to learning and only about 4 percent of the variance in commitment to teaching is explained by the university background variables in the model. Table 37 also shows that only two variables--years and program--are significantly related to both commitment to learning and commitment to teaching. As predicted, the significant negative effects of -.178 for program on commitment to learning and -.175 for program on commitment to teaching suggest that students in the elementary program are more committed to learning and teaching than students in the secondary program. Several factors may account for this programmatic difference. One possibility is that students in the secondary program who are generally more subject-

oriented than students in the elementary program, may identify more with their respective disciplines (ie. geography or physics) than the more general processes of learning and teaching. Another possibility is that students in the secondary program may be more inclined than students in the elementary program to choose teaching after attempts at other careers have been unsuccessful. This is what Lortie (1975) has described as the "blocked aspirations" motive for teaching.

The only other variable that is significantly related to the two dependent variables is years. On this point, it is interesting to note that years behaves differently with each dependent variable. More specifically, there is a significant negative effect between years and commitment to learning (-.153) and a significant positive effect between years and commitment to teaching (.142). This suggests that the more years of university experience that students have, the less committed to learning and the more committed to teaching they are. Although at first glance, these results appear to be contradictory, they support the findings of Huntington (1957) and Merton (1957). Briefly, they suggest that, as students proceed through their professional programs, they increasingly identify with their chosen professions and at the same time, become less committed to their roles as students. What may be a mitigating factor with the effect of years, however, is the role played

Table 37

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects of the University Background Variables on Professional Identity

Independent Variables	C-L	C-T
1. YEARS	-.153** (-.229)	.142* (.103)
2. PREVDEG	-.089 (-.844)	-.065 (-.381)
3. PROG	-.178*** (-.629)	-.175*** (-.284)
4. CRHRS	-.048 (-.053)	.011 (.024)
R^2	.099	.040

*p < .05   **p < .01   ***p < .001

[a] Unstandardized coefficients in parenthesis

by the age of students. In other words, since students with more years of university experience are invariably older, the strength of years may drop.substantially when age and the other social background variables are added. This issue and others are examined in greater detail in the next stage of the analysis.

The expanded model is based on the assumption that the professional identities of student teachers are affected by social background factors as well as the university

background factors already examined. For instance, it is expected that the added maturity that older students generally bring to their university experiences may have a positive effect on their commitment to learning and commitment to teaching.

In addition to age, it is also expected that the measures of socioeconomic background--father's education, father's occupation, and mother's education--may have a significant effect on professional identity. In this regard, Thielens (1965) suggests that students from lower socioeconomic backgrounds are raised to have a greater respect for learning than students from higher socioeconomic backgrounds. Furthermore, the findings of Dworkin (1980), Gottlieb (1964), and Pavalko (1970) suggest that students from lower socioeconomic backgrounds are more likely to remain in teaching and have higher levels of satisfaction with their jobs than students from higher socioeconomic backgrounds. Given these findings, it is expected that students from lower socioeconomic backgrounds may be more committed to learning and teaching.

Finally, it is also expected that students involved in paid employment may have less time, energy, and motivation to be committed to both learning and teaching. This view is consistent with the argument made by role conflict theorists such as Goode (1960) and the research findings of D'Amico (1984) and Wagstaff and Mahmoudi (1976).

Table 38 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university and social background variables on professional identity. As the table shows, approximately 12 percent of the variance in commitment to learning and 7 percent of the variance in commitment to teaching is explained by the variables included in the model. This represents a rather small increase in explained variance from the previous stage of this analysis, most of which is explained by the moderate effects of gender and age.

As suggested in the first stage of the analysis, age does have a positive effect on both commitment to learning (.098) and commitment to teaching (.161). This indicates that older students are more committed to learning and particularly teaching, than younger students. Although no evidence in the research was found to support this, it suggests that mature students may have a greater understanding than younger students of the positive effect that learning can have on the quality of peoples' lives. It is also consistent with the findings of Huntington (1957) and Merton (1957) who suggest that, as students mature, they are able to identify more accurately with the realities of their professional roles.

Although there is no doubt that age is related to professional identity, it does not explain some of the effect of years as previously suggested. In fact, the

Table 38

Standardized and Unstandardized Regression Coefficients and R^2s for
Effects of the University Background and Social Background Variables
on Professional Identity

Independent Variables	C-L	C-T
1. YEARS	-.174** (-.237)	.104* (.107)
2. PREVDEG	-.083 (-.849)	-.059 (-.382)
3. PROG	-.127* (-.684)	-.144** (-.308)
4. CRHRS	-.037 (-.055)	.055 (.025)
5. GEND	.124* (.711)	.091 (.320)
6. AGE	.098* (.072)	.161** (.033)
7. FAOCC	-.002 (-.107)	.002 (.048)
8. FAED	-.061 (-.164)	-.047 (-.074)
9. MOED	.059 (.178)	.018 (.080)
10. EMPLOY	-.034 (-.036)	.086 (.016)
R^2	.122	.070

*p < .05   **p < .01   ***p < .001

a Unstandardized coefficients in parenthesis

effect of years on commitment to learning has increased
slightly from -.153 to -.174. This suggests not only that
the effect of years was initially suppressed by the social
background variables but also that, as students proceed
through their undergraduate programs in the Faculty, they
become less committed to their roles as learners. At first

glance, this latter finding is curious as it appears to contradict the basic tenets of a university education--that is, one might expect students to become more committed to learning as they gain years of university experience. Moreover, this finding is even more puzzling given the particular context; in other words, in a faculty of education where the focus is on learning and teaching, one might expect student teachers, perhaps more than other students, to become more committed to learning as they proceed through their teacher education programs.

On the other hand, this finding may suggest, that during the course of their undergraduate programs, student teachers identify gradually less with their roles as learners and gradually more with their roles as future teachers. Merton (1957, pp. 384-386) argues that this transformation of roles is just one of the problems associated with anticipatory socialization--the process that occurs when students begin to think and behave as professionals before they actually assume their professional roles. In this regard, he states that "too early a development of a professional self-concept is harmful to the ability of a student to remain within the student role." Although the effect of years on commitment to teaching is only .104, it will be interesting to see if this effect changes when the other variables are added to the model.

Table 38 shows that, although the effects of program are somewhat less at this stage than the previous stage of the analysis, program continues to have a significant negative effect on commitment to learning and commitment to teaching. That is, the effect of program on commitment to learning drops from -.178 to -.127 and the effect of program on commitment to teaching drops from -.175 to -.144. Although these effects continue to show that students in the elementary program are more committed to learning and teaching than students in the secondary program, they also show that some of the effects of program at the previous stage of the analysis were actually explained by the social background variables.

A third variable significantly related to professional identity is gender. Although the effect of gender on commitment to teaching only approaches significance, the significant positive effect for commitment to learning (.124) supports the argument that, generally speaking, females approach learning from a different perspective than males; that is, rather than engaging in learning for status attainment reasons, females are more likely than males to engage in learning "for learning's sake" (see Gilligan, 1982; Katchadourian & Boli, 1985, p. 230).

Contrary to the findings expected, it is interesting to note that none of the socioeconomic background variables--father's occupation, father's education, and mother's

education--are significantly related to either commitment to learning or commitment to teaching. The relatively small effects for these variables suggest that socioeconomic background has little bearing on how committed students are to learning and teaching. On the other hand, the small positive effect for employment on commitment to teaching (.086) suggests that, contrary to the argument made by role conflict theorists such as Goode (1960) and the findings of Astin (1993) and Pascarella and Terenzini (1991), students who are involved in paid employment are more committed to teaching than their peers who are not employed. As noted in Chapter 3, just over 50 percent of the students in the sample are employed. Although the effect of paid employment on commitment to teaching is not quite strong enough to be significant at the .05 level, it will be interesting to observe whether this effect changes when the institutional integration variables are added to the model in the next stage of the analysis.

The expanded model is based on the assumption that the professional identities of student teachers are influenced by institutional integration variables as well as the university and social background variables already examined. In this regard, it is expected that interaction with professors may be significantly related to commitment to teaching and interaction with students may be significantly related to commitment to learning. That is, through their

daily interactions with students, professors may set and enforce standards that are consistent with the teaching profession (see Kadushin, 1969). In other words, professors are expected to play an important normative role in relation to their students (see Bank, Slavings, & Biddle, 1990, p. 210). On the other hand, students' university peers, as Pascarella and Terenzini (1991, p. 390) argue, may serve as important role models for how they should think and behave as students. In other words, students are expected to play an important comparative role in relation to their university peers (see Bank, Slavings, & Biddle, 1990, p. 210). It is also expected, as Clifton and Roberts (1993) and Kleinfeld (1975) suggest, that the cognitive demands and positive affect present in a faculty of education will have a significant positive effect on both dependent variables, particularly commitment to learning. That is, students who are expected to meet high academic standards but are also provided with reliable emotional support may be more committed to learning and teaching than students who do not have these kinds of experiences.

Table 39 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university background, social background, and institutional integration variables on commitment to learning and commitment to teaching. As the table shows, there is a substantial increase in explained variance,

particularly with respect to commitment to learning. The increase in R^2 from approximately 12 percent in the previous stage of the analysis to just over 61 percent represents an increase of 49 percent in the explained variance of commitment to learning when the institutional integration variables are added. As noted above, much of this is due to the substantial effects of cognitive demands and positive affect. Although the explained variance in commitment to teaching almost doubles from 7 percent in the previous stage of the analysis to approximately 14 percent at this stage, this increase in explained variance is much less dramatic than it is for commitment to learning.

In examining the effect parameters, all of the significant university and social background effects have decreased at this stage of the analysis, with the exception of credit hours and paid employment. The effect of credit hours on commitment to learning actually increases from -.037 to -.063 suggesting that the effect of this variable was previously suppressed by the social background variables. This significant negative effect also indicates that students who are enrolled in fewer courses are more committed to learning than students enrolled in more courses. This may suggest that students who enroll in fewer courses are more committed to the learning process and less concerned with status attainment than students who enroll in

more courses, although there is no hard evidence to support this interpretation.

The other background effect that increases at this stage of the analysis is the effect of paid employment on commitment to teaching (from .086 to .094). Contrary to the findings of Astin (1993) and Velez (1985), this moderate positive effect indicates that students who are employed are more committed to teaching than students who are not employed. This suggests, as Bowles and Gintis (1976) argue, that perhaps students can benefit from being employed. Their hypothesis suggests that the role expectations of employees and teachers are virtually the same and that involvement in each of these statuses reinforces the role expectations of the other.

Although the effect of credit hours and employment increase, many of the other university and social background effects decrease at this stage of the analysis. The effect of years, for example, drops from -.174 to -.087 suggesting that, while students with more years of university experience are less committed to learning, much of the effect of years is actually explained by the institutional integration variables such as interaction with professors, cognitive demands, and positive affect.

The effect of program on commitment to learning and commitment to teaching also drops substantially at this

Table 39

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects
of the University Background, Social Background, and Institutional Integration
Variables on Professional Identity

Independent Variables	C-L	C-T
1. YEARS	-.087* (-.167)	.109* (.108)
2. PREVDEG	-.024 (-.576)	-.046 (-.372)
3. PROG	-.078* (-.469)	-.116* (-.303)
4. CRHRS	-.063* (-.037)	.040 (.024)
5. GEND	.108* (.481)	.086 (.310)
6. AGE	.057 (.050)	.160** (.032)
7. FAOCC	-.004 (-.073)	-.014 (-.047)
8. FAED	-.043 (-.111)	-.045 (-.072)
9. MOED	.022 (.121)	.016 (.078)
10. EMPLOY	-.034 (-.025)	.094* (.016)
11. INTPR	.152*** (.051)	.021 (.033)
12. INTST	-.018 (-.084)	.144** (.054)
13. COGDEM	.276*** (.080)	.064 (.052)
14. POSAFF	.490*** (.038)	.115* (.024)
R^2	.614	.137

* p < .05   **p < .01   ***p < .001

a Unstandardized coefficients in parenthesis

stage of the analysis. More specifically, the effect of program on commitment to learning drops from -.127 to -.078 and the effect of program on commitment to teaching drops from -.144 to -.116 suggesting that, while students in the elementary program continue to be more committed to learning and teaching, much of this effect is actually explained by how well they are integrated into the Faculty.

The effect of gender on commitment to learning also decreases at this stage of the analysis. That is, the effect of gender decreases from .124 to .108 indicating that, while females are more committed to learning than males, some of the previous gender effect was actually explained by the institutional integration variables. In other words, females are generally more integrated than males and integrated students are more committed to learning than students who are not integrated.

The effect of age on commitment to learning also decreases from .098 to only .057 suggesting that, while it previously appeared that older students were more committed to learning than younger students, a large part of this effect was actually accounted for by the institutional integration variables. In other words, older students are more integrated than younger students and integrated students are more committed to learning than students who are not integrated. It is interesting to note that, while

the effect of age on commitment to learning drops, the
effect for this variable on commitment to teaching remains
relatively constant at approximately .160. This indicates
that, regardless of students' experiences in the Faculty,
older students identify more with the teaching profession
than younger students. In other words, the added maturity
that generally accompanies age may provide older students
with a better appreciation of the realities of teaching and
the importance of the teacher's role in society as a whole.

Of particular interest in this stage of the analysis
are the significant positive effects of the institutional
integration variables on commitment to learning and
commitment to teaching. In particular, it is interesting to
note that interaction with professors has a strong positive
effect on commitment to learning (.152) and interaction with
students has a similar effect on commitment to teaching
(.144). This suggests that professors play a far more
important role in shaping students' attitudes towards
learning than serving as role models for teaching. It also
suggests that students' university peers have a far greater
influence on students' identification with the profession
than on their attitudes towards learning. This contrasts
with the findings of Kadushin (1969) who found that the
peers of professional music students were not influential in
developing students' professional self-concepts.

By far the strongest effects in this stage of the analysis are the effects of cognitive demands and positive affect on commitment to learning (.276 and .490 respectively). These findings suggest that students who are presented with high cognitive demands but are also provided with the emotional support necessary to meet these demands, are more likely to be committed to learning than students who do not experience these kinds of demands and support. This is consistent with the theoretical argument developed by Clifton and Roberts (1993) and Kleinfeld (1975) who argue that warm, demanding institutions are most effective in enabling individuals to achieve their full potential as students. On a related note, it is interesting to observe that, while its effect is much smaller than for commitment to learning, positive affect is also significantly related to commitment to teaching (.115). This suggests that a warm, caring environment is important in developing student teachers' commitment to teaching as well as their commitment to learning.

Although all four of the institutional integration variables are significantly related to one or both dependent variables, it is interesting to speculate about how these effects may change when the individual social psychological variables are added in the next stage of the analysis. When the motivation and academic self-concepts of students are considered, for example, will the effects of the

institutional integration variables drop? This issue and others are addressed in the next stage of the analysis.

The fourth stage of this final analysis includes an expanded model that is based on the assumption that the professional identities of student teachers are affected by their individual social psychological dispositions such as their motivation and academic self-concepts as well as the background and institutional integration variables already examined. More specifically, it is expected that student motivation may have a positive effect on commitment to teaching and academic self-concept may have a positive effect on commitment to learning. That is, students who are highly motivated may be more committed to teaching than those who are not motivated; furthermore, individuals who are confident about their abilities as students may be more committed to learning than those who are less confident.

Table 40 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university and social background, institutional integration, and individual social psychological variables on the professional identities of student teachers. As the R^2s in the table illustrate, by adding the individual social psychological variables to the analysis, slightly more of the variance in the two dependent variables is explained. More specifically, by adding motivation and academic self-concept to the model, the percentage of explained variance

in commitment to learning increases from about 61 percent to almost 64 percent and from 14 percent to about 17 percent in commitment to teaching.

By comparing the effect parameters in Tables 39 and 40, it is evident that, when the social psychological variables are added to the model, some of the effects discussed in the previous stage of the analysis have increased while others have decreased. For example, the effect of years on commitment to learning has decreased slightly from $-.087$ to $-.074$ while the effect of years on commitment to teaching has increased slightly from .109 to .122. This suggests that the individual social psychological variables have a mediating effect on commitment to learning and a suppressor effect on commitment to teaching. In any case, the trend continues as students with less university experience are more committed to learning and students with more university experience are more committed to teaching. This supports the notion that, during the course of their teacher education programs, student teachers' identities change from being primarily focused on learning to being primarily focused on teaching (see Merton, 1957). Similarly, although the effect of age has dropped from .160 to .129 in this stage of the analysis, it continues to have a significant positive effect on commitment to teaching. In other words, older students who generally have more years of university experience are more committed to teaching than younger

students who generally have fewer years of university experience.

A second observation concerns the decrease in the previous program effects on commitment to learning and commitment to teaching from -.078 to -.064 and from -.116 to -.100 respectively. This indicates that, although previously there appeared to be a programmatic difference with respect to the two dependent variables--that is, students in the elementary program were more committed to learning and teaching than students in the secondary program--it is now evident that much of the effect of program was actually explained by students' individual social psychological dispositions. Given this change in the effect of program and given the fact that 75 percent of the students in the elementary program are females, it should not be surprising that the effect of gender on commitment to learning also drops at this stage of the analysis from .108 to .087. In spite of this decrease, however, it is clear that even when students' individual social psychological dispositions are considered, females are still more committed to learning than males. As mentioned earlier, this finding supports the premise that females view learning from a different perspective than males. That is, females may engage in learning for more intrinsic reasons than males who are more concerned with status attainment

(see Gilligan, 1982; Katchadourian & Boli, 1985; Moir & Jessel, 1989).

A third observation concerns two other background variables--credit hours and paid employment. More specifically, at this stage of the analysis, the effect of credit hours on commitment to learning increases slightly from -.063 to -.067; this continues to show that students enrolled in fewer courses are more committed to learning than students enrolled in a greater number of courses. Although no evidence was found in the research to support this, it may indicate, as suggested earlier, that students taking fewer courses have more of an intrinsic desire to learn than students with full course loads who may see learning more as a means of reaping extrinsic rewards later in life.

The final background variable that is significantly related to commitment to teaching is paid employment. In fact, the effect of this variable increases slightly from .094 to .102 suggesting that the individual social psychological variables have somewhat of a suppressor effect on this variable in the previous stage of the analysis. As discussed earlier, this finding contradicts the work of Astin (1993) and Pascarella and Terenzini (1991) who suggest that employed students are generally less integrated with the university and are generally less committed to its

Table 40

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects of the University Background, Social Background, Institutional Integration, and Individual Social Psychological Variables on Professional Identity

Independent Variables	C-L	C-T
1. YEARS	-.074* (-.165)	.122* (.107)
2. PREVDEG	-.018 (-.560)	-.038 (-.365)
3. PROG	-.064 (-.457)	-.100 (-.298)
4. CRHRS	-.067* (-.037)	.034 (.024)
5. GEND	.087** (.471)	.059 (.307)
6. AGE	.034 (.050)	.129* (.032)
7. FAOCC	.009 (.071)	.002 (.046)
8. FAED	-.035 (-.108)	-.035 (-.071)
9. MOED	.022 (.118)	.016 (.077)
10. EMPLOY	-.027 (-.024)	.102* (.016)
11. INTPR	.157*** (.050)	.025 (.033)
12. INTST	-.013 (-.082)	.149** (.053)
13. COGDEM	.256*** (.079)	.041 (.051)
14. POSAFF	.434*** (.038)	.044 (.025)
15. MOT	.173*** (.186)	.219*** (.121)
16. ASC	-.052 (-.312)	-.054 (-.203)
R^2	.637	.174

*p < .05   **p < .01   ***P < .001

[a] Unstandardized coefficients in parenthesis

ideals than students who are not employed. Instead, this significant positive effect indicates that students who are employed are more likely to be among those most committed to teaching. There are a number of interpretations of this finding, all of which are explained in Chapter 5.

A fourth observation concerns the institutional integration variables. Earlier, it was predicted that the effects of these variables would drop when the individual social psychological variables were added to the analysis. Table 40 shows that for cognitive demands and positive affect, this is, in fact, true. In other words, the effect of cognitive demands on commitment to learning drops slightly from .276 to .256. At the same time, the effect of positive affect on commitment to learning drops from .490 to .434 and the effect of positive affect on commitment to teaching drops substantially from .115 to .044. Although the effects for cognitive demands and positive affect are still the strongest at this stage of the analysis, the decrease in their strength indicates that some of their effects are explained particularly by students' motivational levels. In other words, although students who face high academic standards in an integrated, supportive environment are more likely to be committed to learning than students who are not as well integrated, an important factor in the whole process is student motivation.

Of most interest in this stage of the analysis are the effects of the individual social psychological variables--motivation and academic self-concept. As Table 40 shows, only one of these variables--motivation--is significantly related to the two dependent variables. More specifically, motivation has a strong positive effect on commitment to learning (.173) and an even stronger effect on commitment to teaching (.219). These findings suggest that, as expected, students who are motivated are more likely to be committed to both learning and teaching. On the other hand, academic self-concept is not significantly related to either of the dependent variables. Since the relationship between academic self-concept and academic attainment is well-documented (see Brookover et al., 1979), it is expected that GPA will have a minimal effect on commitment to learning and commitment to teaching. If this is confirmed, it may suggest that the academic attainment of students has little bearing on their commitment to learning and their commitment to teaching. It is this issue, in particular, that is examined further in the last stage of this analysis when GPA is added as a measure of academic attainment.

The expanded model is based on the assumption that the professional identities of student teachers are affected by their academic attainment as well as the university and social background, institutional integration, and individual social psychological variables already examined. For

instance, it is expected that the higher the academic attainment of students, the greater the chance that they may be committed to both learning and teaching. On the other hand, there are those such as Duke (1984) and Schlechty and Vance (1981) who argue that, contrary to popular belief, the students who identify most strongly with the teaching profession are among the *least* academically able. In other words, they would expect to see a significant negative effect between GPA and commitment to teaching.

Table 41 reports the R^2s and standardized and unstandardized regression coefficients for the effects of the university background, social background, institutional integration, individual social psychological, and academic attainment variables on commitment to learning and commitment to teaching. The table shows that the R^2s are identical in this stage of the analysis as they were in the previous stage. That is, the explained variance for commitment to learning remains at approximately 64 percent and the explained variance for commitment to teaching remains at approximately 17 percent. As would be expected in a scenario where the amount of explained variance in the dependent variables remains the same, the table also illustrates that the effect parameters for this stage of the analysis are almost identical to those reported in the previous stage of the analysis. In other words, adding GPA as a measure of academic attainment has, at best, only a

minimal effect on the variables that were previously found to be significantly related to commitment to learning and commitment to teaching. That is, of the university background variables, years still has a significant negative effect on commitment to learning (-.074) and a significant positive effect on commitment to teaching (.121) while credit hours still has a negative effect on commitment to learning (.067). In other words, students with fewer years of university experience and students taking fewer courses are more committed to learning than students with more years of university experience and students taking more courses. Moreover, students with more years of university experience are still more committed to teaching than their counterparts with fewer years of university experience.

Of the social background variables, only gender, age, and paid employment are significantly related to either commitment to learning or commitment to teaching. More specifically, the positive effect of gender on commitment to learning (.087) and the positive effects of age and paid employment on commitment to teaching (.134 and .101 respectively) indicate that females are more committed to learning than males while older students and employed students are more committed to teaching than younger students and students who are not employed.

Table 41

Standardized and Unstandardized Regression Coefficients and R^2s for the Effects of

the University Background, Social Background, Institutional Integration, Individual

Social Psychological, and Academic Attainment Variables on Professional Identity

Independent Variables	C-L	C-T
1. YEARS	-.074* (-.165)	.121* (.108)
2. PREVDEG	-.019 (-.568)	-.034 (-.370)
3. PROG	-.065 (-.458)	-.099 (-.298)
4. CRHRS	-.067* (-.037)	.035 (.024)
5. GEND	.087** (.472)	.061 (.308)
6. AGE	.033 (.051)	.134* (.033)
7. FAOCC	.009 (.071)	.004 (.046)
8. FAED	-.035 (-.108)	-.034 (-.071)
9. MOED	.022 (.118)	.015 (.077)
10. EMPLOY	-.027 (-.024)	.101* (.016)
11. INTPR	.156*** (.050)	.026 (.033)
12. INTST	-.014 (-.082)	.152** (.054)
13. COGDEM	.256*** (.079)	.040 (.052)
14. POSAFF	.434*** (.038)	.043 (.025)
15. MOT	.173*** (.187)	.221*** (.122)
16. ASC	-.056 (-.380)	-.037 (-.248)
17. GPA	.007 (.269)	-.031 (.175)
R^2	.637	.174

*$p < .05$ **$p < .01$ ***$p < .001$

[a] Unstandardized coefficients in parenthesis

Of the institutional integration variables, there is a significant positive relationship between interaction with professors, cognitive demands, and positive affect and commitment to learning while only interaction with students has a positive effect on commitment to teaching. In this respect, the significant positive effects for interaction with professors (.156), cognitive demands (.256), and positive affect (.434) suggest that students who have positive interactions with their professors, students who find their courses demanding, and students who are supported emotionally by their professors and peers are more likely to be committed to learning than students who do not experience these kinds of interactions, demands, and support. On the other hand, students who have positive interactions with their university peers are more likely to be committed to teaching than students who do not have these kinds of interactions.

Since only the direct effects of the variables in the model on commitment to learning and commitment to teaching have been examined up to this point in the analysis, the indirect effects of these same variables are now examined. Readers will recall from the previous analysis that, by examining both direct and indirect effects, researchers are able to understand more thoroughly how variables are interrelated than if only the direct effects are examined. Moreover, readers are reminded that an explanation of how to

calculate these direct and indirect effects is found in the text accompanying Table 37.

Table 42 reports the total, direct, and indirect effects of the predetermined variables on student teachers' commitment to learning. Generally speaking, the table shows that the indirect effects are relatively small. Therefore, as with the previous analysis, only the indirect effects of .50 and greater are discussed. Keeping this in mind, it is clear from examining this table that the institutional integration variables have the strongest mediating effects, the individual social psychological variables have moderate mediating effects, and GPA has only a minimal mediating effect on the predetermined variables. To begin, the strongest mediated effect can be seen with years (-.087). This effect indicates that 50 percent of the effect of years is mediated by the institutional integration variables. This suggests that, although students with fewer years of university experience are more committed to learning, half of this effect is dependent on the extent to which students are integrated with the Faculty. Table 42 also shows that positive affect is mediated by the individual social psychological variables--particularly, motivation. The indirect effect of .056 indicates that approximately 11 percent of the effect of positive affect is accounted for by students' levels of motivation.

Table 42

Total, Direct, and Indirect Effects of the Predetermined Variables on the Commitment to Learning of Student Teachers

| Dependent Variable | Predetermined Variables | Total Effects | Indirect Effects via | | | Direct Effects |
			Institutional Integration	Individual Soc. Psych.	Academic Attainment	
C-L	YEARS	-.174	-.087	-.013	.000	-.074
	PREVDEG	-.083	-.059	-.006	.001	-.019
	PROG	-.127	-.049	-.014	.001	-.065
	CRHRS	-.037	.026	.004	.000	-.067
	GEND	.124	.016	.021	.000	.087
	AGE	.098	.041	.023	.001	.033
	FAOCC	-.002	.002	.005	.000	-.009
	FAED	-.061	-.018	-.008	.000	-.035
	MOED	.059	.037	.000	.000	.022
	EMPLOY	-.034	.000	.033	-.040	-.027
	INTPR	.152	--	-.005	.001	.156
	INTST	-.018	--	-.005	.001	-.014
	COGDEM	.276	--	.020	.000	.256
	POSAFF	.490	--	.056	.000	.434
	MOT	.173	--	--	.000	.173
	ASC	-.052	--	--	.004	-.056
	GPA	.007	--	--	--	.007

Although credit hours, gender, interaction with students, and cognitive demands are also significantly related to commitment to learning, the table illustrates that their mediated effects are less than .50. In other words, very little of these effects are mediated through the institutional integration and individual social psychological variables.

Table 43 reports the total, direct, and indirect effects for the predetermined variables on commitment to teaching. As with Table 42, the institutional integration variables have the strongest mediating effects, the individual social psychological variables have moderate mediating effects, and GPA only has a minimal mediating

Table 43

Total, Direct, and Indirect Effects of the Predetermined Variables on the Commitment to Teaching of Student Teachers

Dependent Variable	Predetermined Variables	Total Effect	Indirect Effects via			Direct Effects
			Institutional Integration	Individual Soc. Psych.	Academic Attainment	
C-T	YEARS	.104	-.005	-.013	.001	.121
	PREVDEG	-.059	-.013	-.008	-.004	-.034
	PROG	-.144	-.028	-.016	-.001	-.099
	CRHRS	.055	.015	.006	-.001	.035
	GEND	.091	.005	.027	-.002	.061
	AGE	.033	-.127	.031	-.005	.134
	FAOCC	.002	.016	-.016	-.002	.004
	FAED	-.047	-.002	-.010	-.001	-.034
	MOED	.018	.002	.000	.001	.015
	EMPLOY	.086	-.008	-.008	.001	.101
	INTPR	.021	--	-.004	-.001	.026
	INTST	.144	--	-.005	-.003	.152
	COGDEM	.064	--	.023	.001	.040
	POSAFF	.115	--	.071	.001	.041
	MOT	.219	--	--	-.002	.221
	ASC	-.054	--	--	-.017	.037
	GPA	-.031	--	--	--	-.031

effect on commitment to teaching. By far the strongest
mediated effects in this table are the indirect effects of
the institutional integration variables on age (-.127).
This indicates that 43 percent of the effect of age is
mediated by the institutional integration variables. In
other words, older students are more integrated than younger
students and students who are integrated are more committed
to teaching than students who are not integrated.

SUMMARY

In this chapter, a number of preliminary considerations
were discussed before the effect parameters were
calculated. First, the zero order correlations were
discussed; part of this discussion addressed the problem of
collinearity. Then, the assumptions of multivariate data
analysis were examined. Finally, the effect of sub-sample
was tested. Once these preliminary considerations were
addressed, the effect parameters for the institutional
integration, individual social psychological dispositions,
academic attainment, and professional identities of student
teachers were examined.

Some of the more interesting findings from the first
analysis included the significant effect of years on
cognitive demands and positive affect and the significant
negative effect of program on interaction with students and
cognitive demands. More specifically, the first analysis

indicated that, as student teachers progressed through their undergraduate programs in the Faculty, they perceived the cognitive demands to increase and the positive affect to decrease. The analysis also illustrated that students in the elementary program had more positive interactions with their university peers and found their programs more cognitively challenging than students in the secondary program.

In the second analysis, some of the more interesting findings included the effect of gender on motivation and the effect of age on both motivation and academic self-concept. More specifically, females were found to be more motivated than males and older students were found to have higher motivational levels and higher academic self-concepts than younger students. In addition to these findings, all four of the institutional integration variables were found to be significantly related to either motivation or academic self-concept. That is, students who had positive interactions with their professors and university peers had higher academic self-concepts than students who did not have these kinds of experiences. Moreover, in this analysis, the cognitive demands and positive affect perceived to exist in the Faculty were linked to students' social psychological dispositions. In other words, when students perceived the cognitive demands to increase, their academic self-concepts

decreased and when they perceived the positive affect to increase, so did their motivation.

In the third analysis, four variables were linked to the academic attainment of student teachers. More specifically, students with previous degrees, older students, students who had positive interactions with their university peers, and students who had strong academic self-concepts were found to have higher grade point averages than students without previous degrees, younger students, students who did not have positive experiences with their university peers, and students who had weaker academic self-concepts.

Finally, in the fourth analysis which examined the professional identities of student teachers, a number of variables were linked to both commitment to learning and commitment to teaching. In particular, the variables with the strongest effects on commitment to learning were interaction with professors, cognitive demands, positive affect, and motivation. In other words, students who had positive interactions with their professors, students who experienced an academically demanding but emotionally supportive program, and students who were motivated were those most likely to be committed to learning. On the other hand, the variables with the strongest effects on commitment to teaching were age, paid employment, interaction with students, and motivation. In other words, older students,

employed students, students who had positive interactions with their university peers, and students who were motivated were those most likely to be committed to teaching.

It goes without saying that, during the four analyses reported in this chapter, countless statistical tests were performed at the .05 level. On the issue of statistical significance, it is important to bear in mind that performing multiple tests of significance increases the overall Type 1 error probability. In other words, the greater the number of tests conducted, the greater the chance of rejecting the null hypothesis when it is, in fact, true. This issue is raised at this time because some methodologists such as Skipper, Guenther, and Nass (1972, pp. 141-145) suggest that, in studies such as this one, each consecutive test should be conducted at a reduced level of significance. Although this option was considered, it was decided that traditional significance levels would be used. As the results demonstrate, even though a .05 level of significance was used, approximately 70 percent of the effects in the fully recursive models were significant at either the .01 or .001 levels. This suggests that performing multiple tests of significance in this study did not increase the Type 1 error probability to any great degree. In other words, more was not read into the data than was actually warranted. Therefore, it is reasonable at

this time to proceed with some degree of confidence to the discussion of the findings in Chapter 5.

CHAPTER 5

CONCLUSION

In this chapter, the most important aspects of the
theoretical framework, the sample, the statistical
procedures, and the results are summarized. Next, the major
findings are related to the theoretical framework and the
literature on professional socialization. Finally,
implications of these findings for both the professional
education of student teachers and further research in this
area are discussed.

SUMMARY

Over the last few decades, the teaching profession has
come under increasing criticism. Critics such as Adler
(1977), Kramer (1991), and Nikiforuk (1993) have argued that
students are academically weaker, less committed to
learning, and less committed to their roles as students than
students of the past. Similarly, these critics have also
argued that teachers are among the least academically able
of all professionals, almost anti-intellectual in their
approach to learning, and less committed to their roles as
teachers than those of the past. This has raised some
serious questions regarding the nature of teacher

socialization and the role of faculties of education in this
process. In other words, people have begun to challenge the
generally-accepted induction perspective of professional
socialization proposed by Huntington (1957) and Merton
(1957). This perspective assumes that professional schools
are responsible for, and are able to effectively socialize
prospective professionals. That is, faculties of education
control the professional socialization process and are able
to impart the necessary skills and instill the appropriate
attitudes and dispositions that are valued by the teaching
profession. More specifically, this perspective contends
that faculties of education are able to produce students who
are committed to both learning and teaching.

Conversely, some critics such as Becker et al.(1961)
and Britzman (1986) have suggested that professional
schools, such as faculties of education, are not nearly as
instrumental in the socialization process as most people
think. They suggest that a reaction perspective is more
applicable to the professional socialization of students; in
other words, the skills and attitudes that student teachers
acquire are primarily a result of the individual
dispositions that they bring with them to faculties of
education. From this perspective, the individual
characteristics of students are more relevant than the
institutional characteristics of faculties of education in

determining the commitment of prospective teachers to the teaching profession.

Finally, Simpson (1979) has suggested that the induction and reaction perspectives are, in fact, ideal-types; in other words, she argues that because they represent *ideal* conditions, their usefulness in examining the professional socialization process is limited. In stating this, Simpson's examination of the socialization of nurses has convinced her that a synthetic perspective provides a more realistic view of how students are socialized into their respective professions. This approach recognizes the importance of institutional factors, individual student factors, and perhaps most importantly, social psychological factors in the transition that individuals make from their statuses as students to their statuses as professionals.

Using Simpson's (1979) work as a point of departure, the primary purpose of this study was to determine if the synthetic perspective is useful for studying the professional socialization of student teachers. Within this context, it examined factors that were believed to be related to two fundamental aspects of professional identity --commitment to learning and commitment to teaching. In short, it was argued that student teachers must be committed to both learning and teaching if they are to achieve their full potential as teachers and their students are to receive

a quality education. In order to examine this process, a status attainment approach was used.

Status attainment research examines the effects of peoples' background characteristics and intervening social psychological variables on their later educational and occupational attainment. In this study, university background factors characteristic of the induction perspective and social background factors characteristic of the reaction perspective were combined with a number of social psychological variables to assess their effect on student teachers' professional identities.

According to status attainment research, much of the variation in peoples' educational and occupational attainment can be attributed to a variety of social psychological processes that occur within educational institutions. Therefore, of most interest in this study were the social psychological variables which were intended to measure students' emotional responses to their experiences within faculties of education. In particular, it was argued that students' interactions with their professors and university peers, their perceptions of the cognitive demands and positive affect present in their faculty of education, and their motivation and academic self-concepts have a significant effect on their academic attainment and their professional identities as teachers. In other words, in order for student teachers to realize

their academic potential and in order for them to develop a commitment to both learning and teaching, three conditions must be present. First, they must have positive and encouraging interactions with their professors and their university peers; second, they must experience programs that are both demanding in the cognitive domain and warm in the affective domain; and third, they must have the motivation and academic self-concepts to cope with the demands of a university education. Similarly, it was argued that if student teachers do not have such experiences and do not possess such personal attributes, they are less likely to achieve their academic potential, less likely to be committed to learning, and less likely to be committed to their future profession. Clearly, teachers who lack either a commitment to learning or a commitment to teaching present a serious threat to the quality of education available to students and the potential of these students to be productive members of society. In this respect, this study has examined factors that are not only related to the professional socialization of student teachers but factors that may also have a profound impact on learning in the classroom.

In order to examine the professional socialization of student teachers, a theoretical model comprised of 19 variables was developed to guide the study. Within this context, the four university background variables were years

of university, previous degree, program, and number of
credit hours; the six social background variables were
gender, age, father's occupation, father's education,
mother's education, and paid employment; the four
institutional integration variables were interaction with
professors, interaction with students, cognitive demands,
and positive affect; the two individual social psychological
variables were motivation and academic self-concept; the one
academic attainment variable was grade point average; and
the two measures of professional identity were commitment to
learning and commitment to teaching.

The study was based on data from two previous studies
that examined the quality of student life in the Faculty of
Education at the University of Manitoba; the first study was
conducted in 1987 and the second was conducted in 1992.
Using a stratified random cluster sampling technique, 20
percent of the population of students within each year in
1987 and approximately 27 percent of the population of
students within each year in 1992 were selected. In total,
562 student teachers were included in the study.

The statistical analysis followed a structural equation
modelling approach which involves the diagramming out of the
relationships between the various independent and dependent
variables in a model and testing the relationships through a
series of regression analyses. This approach not only
allows researchers to work back and forth between the theory

and the data but also allows them to decompose the direct and indirect effects of the correlations between the variables.

Keeping in mind the three perspectives of professional socialization described at the outset, the findings of this study have suggested that institutional, individual, and social psychological factors *all* contribute to the professional socialization of student teachers. Consistent with the induction perspective, university background variables, such as program and years, were found to have significant effects on the integration of student teachers into the Faculty of Education. Specifically, students in the elementary program and students with more years of university experience were better integrated than were students in the secondary program and those with fewer years of university experience. Another institutional variable-- previous degree--had a significant positive effect on academic attainment. Specifically, students with previous degrees earned higher GPAs than students without previous degrees. Finally, years had both a significant negative effect on commitment to learning and a significant positive effect on commitment to teaching. This suggests that, as students proceed through their teacher education programs, they become less committed to learning and more committed to teaching. This latter finding is perplexing given the

premise that teachers need to be committed to learning if they expect their students to show the same commitment.

Consistent with the reaction perspective, social background factors, such as age and gender, were found to have significant effects on student teachers' social psychological dispositions, their commitment to learning, and their commitment to teaching. More specifically, older students had higher academic self-concepts and were more committed to teaching than younger students; furthermore, females were more motivated and were more committed to learning than males. These findings suggest that mature students and females may have the most potential as prospective teachers.

Finally, consistent with the synthetic perspective, the majority of variables significantly related to student teachers' commitment to learning and commitment to teaching were social psychological in nature. More specifically, interaction with professors, positive affect, and cognitive demands were found to have significant effects on commitment to learning while interaction with students was found to have a significant effect on commitment to teaching. This suggests that positive interactions with professors and warm, demanding environments are important prerequisites for developing a commitment to learning while positive interactions with university peers is an important prerequisite for developing a commitment to teaching. Of

particular interest in these findings is the possibility that professors and students may play slightly different roles in the professional socialization of student teachers than the current literature on reference-group theory would suggest.

Overall, the findings from this study demonstrate that a synthetic perspective can help us better understand the professional socialization of student teachers. Moreover, the findings suggest that the nature of students' interactions with their professors and peers, the degree to which an institution is perceived as warm and demanding, and the strength of students' own social psychological dispositions all have an impact on student teachers' commitment to learning and commitment to teaching. Although at first glance these findings might appear conclusive, in reality, they are not. In fact, they raise a number of interesting questions which are examined in the discussion.

DISCUSSION

As pointed out in the summary, demands for improving the quality of education have become more persistent and more convincing in recent years. These demands include more frequent assessment of student progress through standardized testing, a greater focus on fundamental skills, stricter standards for promotion and graduation, and the attraction

of higher quality teachers to the profession (see Dougherty & Hammack, 1990, pp. 583-665). If, in fact, reforms are in order, the quality of education within faculties of education must be examined. Before this can be done, however, a thorough understanding of what occurs within these institutions is also needed. This is one reason that studies examining the professional socialization process and, more specifically, the professional socialization of student teachers, are important. Furthermore, considering that teachers are often criticized for being anti-intellectual in their approach to teaching, this is why the commitment to learning and commitment to teaching of student teachers must be examined. In this respect, the main thrust of the argument throughout this study has been that only teachers who are committed to learning can instill the same commitment in their students, only teachers who are committed to teaching can uphold the standards of the profession, and only teachers who have a knowledge and understanding of important educational issues can hope to play a role in the educational reform process.

The results of this study confirm not only that a synthetic perspective is useful for studying the professional socialization of student teachers, but that this study is clearly within the parameters of status attainment research. In this regard, the study provides a greater understanding of the institutional, individual, and

social psychological influences that affect the development of student teachers' professional identities.

One contribution that this study makes to the literature on professional socialization and status attainment is by expanding our understanding of the institutional factors that are significantly related to professional socialization. Some of these factors are *actual* institutional effects such as year and program and others are *perceived* institutional effects such as cognitive demands and positive affect. In this discussion, the actual institutional factors are discussed first. One of these factors is program; more specifically, students in the elementary program have more positive interactions with other students and perceive the cognitive demands to be higher than student teachers in the secondary program. The programmatic difference in the way that these two groups of students interact with their university peers may be explained in two ways. One explanation is that students in the elementary program may be oriented more towards social relations than students in the secondary program who may be oriented more towards their chosen subject areas. If this is the case, it may be further linked to the fact that the majority of students in the elementary program are females while the majority of students in the secondary program are males. This is the argument that Gilligan (1982) makes when

she says that women value social relationships more than men.

A more convincing explanation for the programmatic difference in the way that these two groups of students interact with their university peers, however, may be related to the time that they typically spend with each other. Specifically, students in the elementary program generally spend more time with each other over the course of their undergraduate programs than secondary students who often arrive at the Faculty of Education after completing a first degree in another faculty or university.

The programmatic difference in students' perceptions of the Faculty's cognitive demands may also be interpreted in two ways. Student teachers in the elementary program may perceive the cognitive demands to be higher because they have to balance the demands of their student teaching placements with the requirements of their courses to a greater degree than do student teachers in the secondary program. For example, although in their final undergraduate year, student teachers in both programs are engaged in two five-week blocks of student teaching, student teachers in the elementary program are involved in an additional one day per week in the schools throughout the year. It is this additional time in schools that may place greater demands on students in the elementary program thereby making them more

prone to role strain than student teachers in the secondary
program.

Another explanation for the difference in students'
perceptions of the Faculty's cognitive demands, however, may
lie with the fact that many students in the secondary
program enroll in the Faculty of Education after completing
degrees in other faculties or universities. These previous
experiences may expose such students to higher academic
standards and expectations that, in turn, lower the
perceptions they have of the cognitive demands in the
Faculty of Education. This interpretation is supported by
the comments made by many After-Degree students in Clifton,
Mandzuk, and Roberts' (1994, p. 185) study of the alienation
of student teachers. For instance, a 23 year-old female
stated:

> If we as teachers are going to expect the best of our
> students, it has to start in the Faculty. You are
> generating lousy students by having such low standards!

Similarly, a 25 year-old male stated:

> The academic standards in this school are laughable.
> The courses are too easy; the professors spoon-feed the
> students. It's hard to take some courses seriously!

Although these comments support the premise that students
from other faculties perceive the cognitive demands in the
Faculty of Education to be lower than those they have

experienced elsewhere, this is not supported by the quantitative data collected for this study. In other words, readers should remember that not all students in the secondary program have previous degrees; moreover, previous degree was not found to be significantly related to cognitive demands in the first analysis.

Besides the actual institutional effects, the perceived institutional effects are also of interest. In fact, some of the most interesting findings from this study concern the effects that the perceived institutional factors--cognitive demands and positive affect--have on student teachers' commitment to learning and commitment to teaching. Within this context, the findings involving these two variables have expanded our understanding of the concept of "warm demandingness" cited in Kleinfeld (1975) and developed by Clifton and Roberts (1993). Readers will recall that "warm demandingness" implies that teachers and educational institutions which are both warm in the affective domain and demanding in the cognitive domain are the most effective in enabling individuals to realize their full potential as students. The findings of this study expand this concept one step further by linking cognitive demands and positive affect to students' social psychological dispositions. More specifically, these findings suggest that when an institution's cognitive demands are increased, there is a greater likelihood that students' academic self-concepts

will decrease; on the other hand, when an institution's positive affect is increased, there is a greater likelihood that student motivation will also increase.

What does this mean and how does it expand the work of Clifton and Roberts (1993)? It suggests that students who are exposed to warm, demanding environments may be more likely to have realistic perceptions of themselves as learners because their academic self-concepts, while lowered, will be offset by the motivation to learn and the perseverance needed to complete an undergraduate degree in the Faculty of Education. This realignment of students' academic self-concepts appears to be what Nikiforuk (1993, p. 45) and Kramer (1991) are calling for when they argue that students in North America are disproportionately over-confident in their academic abilities when compared to similar students in most Asian countries. Clifton and Roberts (1993, pp. 128-130) make the same argument and attribute these inflated self-concepts to an educational system that, for the last few decades, has shifted its focus from sincerity to authenticity (see Berger, 1973; Bredemeier & Bredemeier, 1978, pp. 43-45). They argue that many students who might have been motivated by conforming to institutional demands in the past are now more motivated by being "true to themselves". From this perspective, it would seem that students' academic self-concepts may have gradually become distorted as a result of an educational

system that has allowed them to focus more on their individual needs and desires rather than the academic standards set out by their teachers and their schools.

Given the fact that cognitive demands and positive affect are significantly related to motivation and academic self-concept, it is perhaps not surprising that these perceived institutional characteristics are also related to another individual disposition--commitment to learning. This finding suggests that a realistic academic self-concept and high motivation are necessary but not sufficient prerequisites for developing both an intrinsic enjoyment of learning as well as an awareness that the process may sometimes be difficult and "painful".

Of some concern in this study were two findings that involved the variable, year in program. The first of these findings suggested that, as students proceed through their teacher education programs, they perceive the demands to remain high but the warmth to drop off. More importantly, perhaps, was the second finding which suggested that students become less committed to learning as they progress through their programs. If this is, in fact, true, it suggests that teachers are less committed to learning when they begin their careers than when they first enroll in the Faculty of Education. This is exactly the case that critics such as Adler (1977), Kramer (1991), and Nikiforuk (1993) make when they suggest that the majority of teachers begin

their careers as anti-intellectuals who lack the skills,
attitudes, and personal dispositions needed to "turn their
students on" to learning. This apparent decrease in student
teachers' commitment to learning may be explained in a
number of ways.

One explanation is that the drop in social support that
students perceive in the latter stages of their
undergraduate programs has a direct negative effect on their
commitment to learning. In other words, when students
perceive the emotional warmth of the institution to
decrease, a similar decrease occurs in their motivation and
their perseverance to cope with the demands of learning.

A second explanation for the apparent drop in student
teachers' commitment to learning may lie with the cross-
sectional nature of the data. In other words, differences
in student teacher commitment may be primarily a result of
cohort differences. That is, the drop in this effect may
not represent a decrease in student teachers' commitment to
learning at all but may simply indicate that the sample of
student teachers in the fourth year of the undergraduate
program are less committed to learning than the sample of
students in the first year of the undergraduate program.

Probably the most convincing explanation of the
decrease in this effect, however, is found in the literature
on anticipatory socialization (see Kadushin, 1969, p. 403;
Merton, 1957, pp. 384-86). As readers will recall,

anticipatory socialization occurs when individuals begin to identify with their future roles while still playing their present roles. From a professional socialization perspective, it is expected that student teachers will increasingly identify with their future teaching roles as they move through their undergraduate programs. A by-product of this process, however, is that student teachers may begin to identify less with their roles as students as they progress through their programs in the Faculty of Education. In other words, it is possible that what appears to be a drop in student teachers' commitment to learning may actually be a drop in their identification as students. Moreover, this may represent just one of many role conflicts that student teachers have to resolve as they make the transition from their statuses as students to their statuses as professionals.

A second contribution that this study makes to the literature on professional socialization and status attainment is by expanding our understanding of the individual factors that are significantly related to the professional identities of student teachers. Some of these individual factors are social psychological in nature while others reflect student teachers' demographic or social background characteristics. As readers will recall, the two social psychological variables included in the model were motivation and academic self-concept. Interestingly enough,

the findings of this study suggest that these two variables may "behave" quite differently. More specifically, motivation was found to be significantly related to both commitment to learning and commitment to teaching while academic self-concept was found to have little effect on either of these variables. This suggests that the motivation of student teachers may be a far better predictor of how strongly they will identify with the teaching profession than their academic self-concepts; furthermore, since academic self-concept and GPA are so highly correlated, it also suggests that the academic abilities of student teachers have, for all intents and purposes, little effect on their professional identities. This suggests that the Faculty of Education may do such a good job of screening students, that there is little significant difference in academic ability between students who are admitted to, and complete the undergraduate program.

Besides the social psychological factors discussed above, a number of demographic or social background factors --gender, age, and paid employment--were also found to be significantly related to student teachers' professional identities. Females, for example, were found to be more motivated and more committed to learning than males. As mentioned earlier, Gilligan (1982) and Moir and Jessel (1989) suggest that this may be due to the fact that, in general, females approach learning for more intrinsic

reasons than males who tend to approach learning as a means of status attainment. Katchadourian and Boli's (1985, p. 230) examination of undergraduates' attitudes towards learning also supports this view. Using a typology that includes students as Intellectuals and students as Careerists, they report that females outnumber men more than two to one among Intellectuals. In other words, females are far more likely than males to engage in "learning for learning's sake."

Another social background factor that is linked to professional identity is age. The findings of this study indicate that mature students have stronger social psychological dispositions, higher GPAs, and are more committed to teaching than younger students. Although these findings suggest that mature students would be assets to any class, the previous educational and work experiences of these students may also make them more likely to criticize professors and their programs. Moreover, mature students may find it difficult to accept and interact with students who are younger and lack the life experiences that they have. Specifically, mature students may break the homogeneity of undergraduate classes where distractions such as dating and part-time work are the norm.

A final background factor that has been linked to professional identity is paid employment. Surprisingly, students who are involved in paid employment are more likely

to be committed to teaching than students who are not employed. In this respect, the study seems to favour a theory of multiple status involvement known as role expansion theory (see Marks, 1977; Thoits, 1986) rather than a theory based on role conflict (see Goode, 1960). That is, it appears that the involvement of student teachers in paid employment may stimulate energy and produce resources that can then be directed towards their identification with their future profession. Using role expansion theory, this finding may be interpreted in two different ways. One way is to focus on the nature of employment in which student teachers have been involved. In other words, perhaps student teachers' decisions to become teachers are reinforced by their negative experiences working at poor-paying, unchallenging, and low-status jobs.

Another way of interpreting this finding is to focus on the personal qualities that are valued by most employers. In other words, from their experiences working at different jobs, student teachers may learn that personal attributes such as promptness, organization, responsibility, and empathy, are qualities that are almost universally expected in the working world. In turn, these student teachers may then apply this knowledge to their developing conceptions of what it means to be a teacher.

A final contribution that this study makes to the literature on professional socialization and status

attainment is by expanding our understanding of the effects
of reference groups on the development of student teachers'
commitment to learning and their commitment to teaching.
Specific reference groups or significant others were found
to play an important intervening role between student
teachers' background characteristics and their developing
professional identities. The literature on reference-group
theory suggests that within the university context,
students' significant others, such as their professors and
university peers, perform two major functions--one is
normative and the other is comparative. Although professors
may perform both of these functions, traditionally, their
role has been viewed as being primarily normative in nature
--this involves the setting and enforcing of standards and
expectations for how students should behave (see Bank,
Slavings, and Biddle, 1990, p. 210). From this perspective,
it has generally been accepted that one of the main
functions of professors in faculties of education has been
to set and enforce standards of conduct that are valued by
the teaching profession.

Although it has been recognized that students'
university peers may also perform both functions,
traditionally, their role has been viewed as being primarily
comparative in nature--this involves modelling the specific
behaviours, attitudes, and dispositions that are consistent
with being student teachers. From this perspective, it has

generally been accepted that one of the main functions of student teachers in faculties of education has been to serve as role models for how their university peers should think and behave.

The findings of this study suggest that a different interpretation of the influence of professors and students may be in order. The significant positive relationship between interaction with professors and commitment to learning indicates that professors may play more of a comparative role than a normative role within faculties of education. In this respect, professors' commitment to, and attitudes towards learning may have more of an effect on student teachers than the expectations they lay out for appropriate professional conduct. This suggests that professors need to be aware that their individual dispositions towards learning are constantly being observed by their student teachers. From this perspective, the ability of professors to introduce students, as Adler (1977) says, to both "the joy and pain of learning" is critical and may have repercussions that reach far beyond a faculty of education. The importance of the role models that professors provide are aptly illustrated by the following comments made by a 24 year-old female student teacher in Clifton, Mandzuk, and Roberts' (1994, p. 185) study of the alienation of student teachers:

Professors in this faculty don't show signs of having

set high goals for themselves and working hard to

attain them so why should I?

Similarly, a 25 year-old male student teacher from the same

study stated:

I get extremely upset when I see a poor teacher

and realize the effects that that [sic] teacher will

and does have on children. Similarly, I become upset

and somewhat apathetic if I have a poor professor for a

class. (p. 187)

These illustrations emphasize the importance of

professors as role models for learning. Moreover, they also

emphasize that one of the primary objectives of teacher

education should be to instill in students an intrinsic

enjoyment of the learning process as well as a realization

that sometimes learning can be difficult and "painful".

Only when student teachers have a healthy respect for

learning can they be truly committed to the process and only

then, can they instill that same respect in their own

students.

Just as professors may have more of a modelling

influence than previously thought, the university peers of

student teachers may have more of a normative influence than

prior research has suggested. The significant positive

relationship between interaction with students and

commitment to teaching indicates that, rather than being totally dependent on their professors to set and enforce professional standards, students may, to some extent, perform this function themselves. Greene and Campbell (1993, p. 9) suggest that in the initial stages of their undergraduate programs, student teachers do not value the academic knowledge and opinions that their peers bring to class. However, in the latter stages of their undergraduate programs, once they have earned the respect and credibility of the group, student teachers have useful discussions regarding the behaviours and attitudes valued by the teaching profession. MacKinnon and Grunau (in press) provide further insight into how students play an active role in establishing professional standards. They argue that student teachers' professional identities may begin to emerge from their discussions of the characterizing features of "the good teacher", the substantive qualities of teaching that are important to them as a group, their growing sense of criticism for one another's practice, and how they see each other enter the role of teaching. In some respects, this view of how student teachers begin to identify with the profession is consistent with the reaction perspective which portrays students as proactive forces in their own professional socialization.

IMPLICATIONS

Research often brings to light a number of implications for both practice and further research--in this respect, this study is no exception. However, this study does differ in the way in which these implications are discussed. More specifically, the following implications are presented without a distinction made between those which apply to practice and those which apply to research. In keeping with the theme that learning and teaching are two ends of the same continuum, the rationale behind this approach is that practice and research are also closely interrelated. In other words, the approach taken in this final section is that, just as practice should guide research, research should guide practice.

The first three implications address the importance of the individual student factors examined in this study. One suggestion for extending the present study is to conduct a more specific examination of the differences in the way that males and females approach learning. Can Gilligan's (1982) premise that women speak "in a different voice" and Katchadourian and Boli's (1985) claim that females are more intellectual in their approach to learning be supported by further research or are the gender differences noted in this study due primarily to idiosyncratic factors related to the particular sample used? An examination of this question may

lead to a greater understanding of the claim that there are significant differences in the motivation of men and women and what they hope to accomplish in their careers and private lives.

A second suggestion for further research is to conduct a more thorough examination of the specific qualities that mature students bring to their university experiences. Of particular interest might be the life experiences of mature students that tend to have an impact on their motivation, academic attainment, and career choices. Why do these students do so well when compared with younger students? Does the extra maturity that older students bring to their university experiences provide them with a different perspective of teaching than younger students bring with them? If so, does this different perspective also enable them to cope more effectively with role strain and role conflict? This question is particularly interesting given the fact that older students typically play many more roles than do younger students.

A third suggestion for extending the present study is to examine more closely the positive effects of paid employment on professional identity. The bulk of the literature on paid employment focuses on the effects of employment on the academic attainment of students; to this end, there are varying views--some such as D'Amico (1984), Etcheverry, Clifton, and Roberts (1993), and Radwanski

(1987) have found positive effects, some such as Wagstaff and Mahmoudi (1976) have found negative effects, and others such as Metzner and Bean (1987) have found no significant effects of paid employment on the academic attainment of students. Further research on the effects of paid employment might examine the specific types of work in which students are engaged, the number of hours worked, and the perceived benefits of part-time work on commitment to teaching.

In expanding the examination of reference-groups, further research might involve the development of an "Interaction with Parents" measure. The literature on reference-group theory suggests that the influence of parents on the aspirations and achievement of university students is widely debated (see Bank, Slavings, & Biddle, (1990). Although traditionally, the influence of parents has been thought to gradually decline during the school years, some researchers such as Anderson (1988) and Munro (1981), have reported that parental aspirations have significant effects on the attrition of university students. In other words, students whose parents have high aspirations for them are less likely to drop out of high school and university than students whose parents do not have such aspirations. If this is the case, it is also possible that the expectations of parents may have a significant effect on student teachers' professional identities. As Bank,

Slavings, and Biddle (1990, p. 210) argue, "it seems more likely that parents continue to be actively involved in the lives of their college-age children and that these children take their parents' expectations and behaviours into account in formulating their own educational goals."

Although this study examined student teachers' perceptions of the cognitive demands and positive affect present in the Faculty, it did not directly examine students' perceptions of the quality of the teaching that they experience in the institution. In this respect, while the cognitive demands scale was designed to measure the academic standards upheld by the institution and the positive affect scale was designed to measure the social support provided by the institution, a third scale could be designed to measure students' perceptions of the dynamics or quality of the teaching that they experience within the Faculty of Education. A scale of this kind might examine such aspects of teaching as the enthusiasm professors show for their discipline, their ability to engage students in intellectual exchanges, and even their use of a variety of teaching styles. The development of such a scale would then hopefully add to our understanding of the importance of perceived institutional effects on the professional socialization of student teachers. The development of such a scale might also enhance our understanding of whether or not enthusiastic teachers have long-term effects on the

professional identities of student teachers and whether or
not student teachers who have had warm, demanding,
enthusiastic teachers are likely to become warm, demanding,
enthusiastic teachers themselves.

One of the unique aspects of this study was the
development of a commitment to learning measure. Although
it has broadened our understanding of professional identity,
especially as it applies to teaching, it is far from a
perfect measure of commitment to learning. That is, the
scale measures students' general enjoyment of learning but
it fails to address students' reasons for, and attitudes
towards learning. Researchers interested in this area may
want to refine the scale in order to improve its content
validity. This might involve the development of
items that would be designed to measure the extent to which
university students pursue learning for utilitarian,
intrinsic, and other reasons. In other words, a scale of
this kind might enhance our understanding of two distinct
but not mutually exclusive orientations that university
students have towards learning--learning for the purposes of
beginning and/or advancing a career and learning for the
purposes of personal intellectual development. This is what
Katchadourian and Boli (1985) have referred to as "careerism
and intellectualism" among university students.

If the commitment to learning scale was, in fact,
refined, further research might then apply the commitment to

learning/commitment to teaching conceptualization of professional identity to professions other than teaching. Professions that come to mind are those commonly cited in the literature on professional socialization--nursing, medicine, and law. Even though a modification of the commitment to teaching component would be required to make it more applicable to such professions, it would be interesting to see if a commitment to learning is equally as important to other professions as it is to teaching. It would also be interesting to see if the ratio of careerism and intellectualism differs from one profession to another. In other words, do some professions attract students who are more likely to view learning as a means of career advancement and other professions attract students who are more likely to view learning in terms of their own intellectual development? Furthermore, where do student teachers, in general, fit in along this careerism-intellectualism continuum?

Finally, further research in this area should be more longitudinal in nature by following student teachers from the time that they begin in the Faculty of Education until they have taught for a few years in the classroom. This might provide a more complete picture of the professional socialization process by observing whether or not student teachers' commitment to learning changes over time. Specifically, a study of this kind might provide evidence to

either refute or support the claim that even student
teachers with intellectual orientations towards learning
succumb to a "dumbing-down" process once they are faced with
the realities of the classroom (see Kramer, 1991, Sizer,
1984). These suggestions for further research and practice
are simply that--suggestions. They are, in no way, intended
to be exhaustive but are intended instead, to provide a
point of departure for further investigations into the
professional socialization process.

In conclusion, the theoretical model upon which this
study has been based represents an improvement on the models
that have been used in previous research of the professional
socialization of student teachers. However, it is hoped
that this model will be improved upon by other researchers
who will more accurately examine factors that are thought to
affect the professional socialization of students and who
will add to our understanding of how novices are transformed
into full-fledged professionals. As mentioned throughout
this study, it is in this manner that teaching and learning,
and practice and research become two ends of the same
continuum.

REFERENCES

Abercrombie, N., Hill, S., & Turner, B. S. (1984).

    Dictionary of sociology. London: Penguin.

Adler, M. J. (1977). Reforming education - The opening

    of the American mind. New York: Macmillan.

Aitken, N. (1983). College student performance,

    satisfaction, and retention. Journal of Higher

    Education, 53, 32-50.

Alwin, D. F., & Hauser, R. M. (1975). The decomposition of

    effects in path analysis. American Sociological Review,

    40, 37-47.

Anderson. K. (1988). The impact of colleges and the

    involvement of male and female students. Sociology

    of Education, 61, 160-177.

Angus Reid/Southam News.(1993). Making the grade:

    Public opinion on education in Canada. Toronto: Author.

Asher, H. B. (1976). Causal modeling. (Sage University

    Paper series on Quantitative Applications in the Social

    Sciences, series no. 02-079). Newbury Park, CA: Sage.

Astin, A. (1977). Four critical years. San Fransisco:

    Jossey-Bass.

Astin, A. (1982). Minorities in American higher education.

    San Fransisco: Jossey-Bass.

Astin, A. (1993). What matters in college: Four critical

    years revisited. San Fransisco: Jossey-Bass.

Bank, B. J., Slavings, R. L., & Biddle, B. J. (1990). Effects of peer, faculty, and parental influences on students' persistence. Sociology of Education, 63, 208-255.

Becker, H. S., & Carper, J. W. (1956). The development of identification with an occupation. American Sociological Review, 61, 289-98.

Becker, H. S., Geer, B., Hughes, E. C., & Strauss, A. L. (1961). Boys in white. Chicago: University of Chicago Press.

Berger, P. L. (1973). 'Sincerity' and 'authenticity' in modern society. The Public Interest, 31, 81-90.

Berliner, D. (1988). Implications of studies of expertise in pedagogy for teacher education and evaluation. In Educational Testing Service (Ed.) New directions for teacher assessment. Proceedings of the 1988 ETS Invitational Conference. Princeton, New Jersey: Author.

Biddle, B. J., Bank, B. J., & Marlin, M. M. (1980). Parental and peer influences on adolescents. Social Forces, 58, 1057-1079.

Blalock. H. M. (1961). Causal inference in nonexperimental research. Chapel Hill: University of North Carolina.

Blalock, H. M. (1969). Theory construction: From verbal to mathematical formulations. Englewood Cliffs: Prentice-Hall.

Blau, P., & Duncan, O. (1967). The American occupational structure. New York: Free Press.

Bock, R. D. (1975). Multivariate statistical methods in behavioural research. New York: McGraw-Hill.

Boldt, E. D., Lindquist, N. E., & Percival, A. (1976). The significance of significant others. Canadian Review of Sociology and Anthropology, 13, 345-351.

Bowles, S., & Gintis, H. (1976). Schooling in capitalist America. New York: Basic.

Boyle, R. P. (1970). Path analysis and ordinal data. American Journal of Sociology. 75, 461-480.

Bredemeier, M. E., & Bredemeier, H. C. (1978). Social forces in education. Sherman Oaks, CA: Alfred.

Brim, O. G. (1966). Socialization through the life cycle. In O. G. Brim, & S. Wheeler (Eds.), Socialization after childhood. New York: Wiley.

British Columbia College of Teachers (1992). The summary report: Review of teacher education in British Columbia 1989-1991. Vancouver, BC: Author.

Britzman, D. P. (1986). Cultural myths in the making of a teacher: Biography and social structure in teacher education. Harvard Educational Review, 56, 442-455.

Broadhead, R. S. (1983). The private lives and professional identity of medical students. New Brunswick, NJ: Transaction.

Brookover, W. B., Beady, C., Flood, P., Schweitzer, J., & Wisenbaker, J. (1979). <u>School social systems and student achievement</u>. New York: Praeger.

Bulcock, J. W. (1982). School assessment: The middle way. <u>McGill Journal of Education</u>, <u>17</u>, 128-143.

Bulcock, J. W., Whitt, M. E., & Beebe, M. J. (1991). Gender differences, student well-being and high school achievement. <u>The Alberta Journal of Educational Research</u>, <u>37</u>, 209-224.

Burke, P. J. (1991). Identity processes and social stress. <u>American Sociological Review</u>, <u>56</u>, 836-849.

Burke, P. J., & Reitzes, D. C. (1981). The link between identity and role performance. <u>Social Psychological Quarterly</u>, <u>44</u>, 83-92.

Burke, P. J., & Tully, J. C. (1977). The measurement of role identity. <u>Social Forces</u>, <u>55</u>, 881-896.

Campbell, R. Y. (1983). Status attainment research: End of the beginning or beginning of the end? <u>Sociology of Education</u>, <u>56</u>, 47-52.

Carnegie Forum on Education and the Economy, Task Force on Teaching as a Profession. (1986). <u>A Nation Prepared: Teachers for the 21st Century</u>. New York: Author.

Carver, C. S., & Scheier, M. F. (1981). <u>Attention and self-regulation</u>. New York: Springer-Verlag.

Chapman, D., & Pascarella, E. (1983). Predictors of academic and social integration of college students. Research in Higher Education, 19, 295-322.

Chickering, A. W. (1974). Commuting versus resident students: Overcoming the educational inequities of living off campus. San Fransisco: Jossey-Bass.

Clark, B., & Trow, M. (1966). The organizational context. In T. Newcomb, & E. Wilson (Eds.), College peer groups: Problems and prospects for research. Chicago: Aldine.

Clausen, J. A. (1968). Perspectives on childhood socialization. In J. A. Clausen (Ed.), Socialization and society. Boston: Little, Brown & Co.

Clifton, R. A. (1978). Socioeconomic status, attitudes, and educational performance: A comparison of students in England and New Zealand. (IEA Monograph Studies No. 8). Stockholm: University of Stockholm, Institute of International Education.

Clifton, R. A. (1981). Ethnicity, teachers' expectations, and the academic achievement process in Canada. Sociology of Education, 54, 291-301.

Clifton, R. A., Jenkinson, D., Marshall, S., Roberts, L. W., & Webster, J. B. (1987). Report of the sub-committee on students. Winnipeg: University of Manitoba, Faculty of Education.

Clifton, R. A., Mandzuk, D., & Roberts, L. W. (1994).
The alienation of undergraduate education students:
A case study of a Canadian university. Journal of
Education for Teaching, 20, 179-192.

Clifton, R. A., & Roberts, L. W. (1993). Authority in
classrooms. Scarborough, ON: Prentice-Hall Canada.

Clifton, R. A., Roberts, L. W., Welsh, J. C., Etcheverry,
E., Hasinoff, S., & Mandzuk, D. (1992). Report on the
undergraduate students in the Faculty of Education.
University of Manitoba. Winnipeg: University of Manitoba,
Faculty of Education.

Coser, L. (1974). Greedy institutions. New York: Free
Press.

Coser, R. L. (1991). In defense of modernity: Role
complexity and individual autonomy. Stanford, CA:
Stanford University Press.

Crawford, V. (1993). Education for the twenty-first century.
Mount Allison Record, 3, 5-6.

Cropley, A. J. (Ed.).(1980). Toward a system of lifelong
education. Hamburg: Unesco Institute for Education.

Cross, K. P. (1981). Adults as learners. San Fransisco, CA:
Jossey-Bass.

D'Amico, R. (1984). Does employment during high school
impair academic progress? Sociology of Education, 57,
152-164.

Davis, J. A. (1965). Undergraduate career decisions. Chicago: Aldine.

Davis, J. A. (1971). Graph principles in path analysis and causal models: An expository discussion. Chicago: University of Chicago, National Opinion Research Center.

Donovan, F. R. (1920). The woman who waits. Boston: R. G. Badger.

Donovan, F. R. (1929). The saleslady. Chicago: University of Chicago Press.

Dornbusch, S. M. (1955). The military academy as an assimilating institution. Social Forces, 33, 316-321.

Dougherty, K. J., & Hammack, F. M. (1990). Education and society: A reader. New York: Harcourt, Brace, Jovanovich.

Duke, D. L. (1984). Teaching: The imperiled profession. Albany, NY: State University of New York Press.

Duncan, O. D. (1970). Partials, partitions and paths. In E. F. Borgatta & G. W. Bohrnstedt (Eds.), Sociological Methodology (pp. 38-47). San Fransisco: Jossey-Bass.

Duncan, O. D., Featherman, D. L., & Duncan, B. (1972). Socioeconomic background and achievement. New York: Seminar Press.

Durkheim, E. (1960). The division of labour in society. Glencoe, Free Press. (original work published 1893)

Dworkin, A. G. (1980). The changing demography of public school teachers: Some implications for faculty turnover in urban areas. Sociology of Education, 53, 65-73.

Economic Council of Canada. (1992). A lot to learn: Education and training in Canada. Ottawa: Supply and Services Canada.

Edgell, S. (1970). The spiralists: Their careers and family lives. British Journal of Sociology, 21, 314-323.

Etcheverry. E., Clifton, R. A., & Roberts, L. W. (1993). Time use and educational attainment: A study of undergraduate students. Canadian Journal of Higher Education, 3, 1-15.

Feldman, K., & Newcomb, T. (1969). The impact of college on students. San Fransisco: Jossey-Bass.

Foote, N. N. (1951). Identification as the basis of a theory of motivation. American Sociological Review, 16, 14-21.

Fox, J. (1991). Regression diagnostics. (Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-079). Newbury Park, CA: Sage.

Fredricks, M. A., & Mundy, P. (1978). The making of a physician. Chicago: Loyola University Press.

Friedson, E. (1970). The profession of medicine. New York: Dodd, Mead.

Fullan, M., Wideen, M., & Eastabrook, G. (1983). A study of teacher training institutions in anglophone Canada, Vol. 1: Current perspectives on teacher training in Canada: An overview of faculty and student perceptions. (Report to the Social Science and Humanities Research Council). Vancouver: Simon Fraser University and University of Toronto: OISE.

Gallup Canada. (1992). Canadians dissatisfied with the education children are receiving. Toronto: Author.

Gilligan, C. (1982). In a different voice: Psychological theory and womens' development. Cambridge, MA: Harvard University Press.

Goffman, E. (1974). Frame analysis: An essay on the organization of experience. Harmondsworth, ENG: Penguin.

Goffman, E. (1981). Forms of talk. Oxford: Blackwell.

Goldsen, R. K., Rosenberg, M., Williams, R. M., Jr. & Suchman, E. A. (1960). What college students think. Princeton, NJ: Van Nostrand.

Goode, W. J. (1960). A theory of role strain. American Sociological Review, 25, 483-496.

Gottlieb, D. (1964). Teaching and students: The view of Negro and white teachers. Sociology of Education, 37, 345-353.

Greene, M. L., & Campbell, C. (1993, June). <u>Becoming a</u> <u>teacher: The contribution of teacher education</u>. Paper presented at the annual conference of the Canadian Society for the Study of Education. Ottawa, ON.

Gross, N., Ward, M., & McEachern, A. (1958). <u>Explorations in</u> <u>role analysis</u>. New York: Wiley.

Halli, S. S., & Rao, K. V. (1992). <u>Advanced techniques of</u> <u>population analysis</u>. New York: Plenum Press.

Hare, W. (1993). <u>What makes a good teacher: Reflections on</u> <u>some characteristics central to the educational</u> <u>enterprise</u>. London, ON: The Althouse Press.

Hauser, R. M. (1972). <u>Socioeconomic background and</u> <u>educational performance</u>. Washington: American Sociological Association.

Hearn, J. C., & Olzak, S. (1981). The role of college major departments in the reproduction of sexual inequality. <u>Sociology of Education, 54</u>, 195-205.

Heise, D. R. (1975). <u>Causal Analysis</u>. New York: Wiley.

Holmes Group. (1986). <u>Tommorow's teachers: A report of the</u> <u>Holmes Group</u>. East Lansing, MI: Author.

Huntington, M. J. (1957). The development of a professional self-image. In R. K. Merton, G. C. Reader, M.D., & P. L. Kendall (Eds.), <u>The student physician</u> (pp. 179-187). Cambridge, MA: Harvard University Press.

Jackson, S. E. (1981). Measurement of commitment to role

    identities. <u>Journal of Personality and Social</u>

    <u>Psychology</u>, <u>40</u>, 138-146.

Jarvis, P. (1986). <u>Sociological perspectives on lifelong</u>

    <u>education and lifelong learning</u>. Athens, GA: University

    of Georgia.

Jary, D., & Jary, J. (1991). <u>The Harper Collins Dictionary</u>

    <u>of Sociology</u>. New York: Harper Collins.

Kadushin, C. (1969). The professional self-concept of music

    students. <u>American Journal of Sociology</u>, <u>75</u>, 389-404.

Kanter, R. M. (1972). <u>Community and commitment</u>. Cambridge,

    MA: Harvard University Press.

Katchadourian, H. A., & Boli, J. (1985). <u>Careerism and</u>

    <u>intellectualism among college students</u>: <u>Patterns of</u>

    <u>academic and career choice in the undergraduate years</u>.

    San Fransisco: Jossey-Bass.

Kelley, H. H. (1947). Two functions of reference groups. In

    G. E. Swanson, T. M. Newcomb, & E. L. Hartley (Eds.),

    <u>Readings in Social Psychology</u> (pp. 410-414). New York:

    Holt.

Kim, J. O., & Mueller, C. W. (1976). Standardized and

    unstandardized coefficients in causal analysis.

    <u>Sociological Methods and Research</u>, <u>4</u>, 423-438.

Kleinfeld, J. S. (1975). Effective teachers of Eskimo and

    Indian students. <u>School Review</u>, <u>83</u>, 301-344.

Knapper, C. K., & Cropley, A. J. (1985). Lifelong learning and higher education. London: Croon Helm.

Knowles, M. S. (1975). The modern practice of adult education: From pedagogy to andragogy. Chicago: Follett.

Kramer, R. (1991). Ed school follies: The miseducation of America's teachers. New York: Free Press.

Lewington, J., & Orpwood, G. (1993). Overdue assignment: Taking responsibility for Canada's schools. Toronto: Wiley.

Lewis-Beck, M. S. (1980). Applied regression: An introduction. (Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-022). Newbury Park, CA: Sage.

Lortie, D. C. (1975). School teacher: A sociological study. Chicago: University of Chicago Press.

MacKinnon, A. M., & Grunau, H. (in press). Teacher development through reflection, community and discourse. In P. P. Grimmett & J. Neufeld (Eds.), The struggle for authenticity: Teacher development in a changing educational context. New York: Teachers College Press.

Marks, S. R. (1977). Multiple roles and role strain: Some notes on human energy, time, and commitment. American Sociological Review, 42, 921-936.

McCall, G. J., & Simmons, J. L. (1966). Identities and interactions. New York: Free Press.

Merton, R. K. (1957). <u>Social theory and social structure</u>.

    Glencoe, IL: Free Press.

Metzner, B. S., & Bean, J. P. (1987). The estimation of a

    conceptual model of nontraditional undergraduate student

    attrition. <u>Research in Higher Education</u>, <u>27</u>, 15-38.

Moir, A., & Jessel, D. (1989). <u>Brain sex</u>: <u>The real</u>

    <u>difference between men and women</u>. New York: Dell.

Munro, B. H. (1981). Dropouts form higher education: Path

    analysis of a national sample. <u>American Educational</u>

    <u>Research Journal</u>, <u>18</u>, 133-141.

National Commission on Excellence in Education. (1983).

    <u>A nation at risk</u>. Washington, DC: Government Printing

    Office. (ERIC Document Reproduction Service No.

    ED 226 006)

National Governors' Association. (1986). <u>A time for results</u>:

    <u>The governors' 1991 report on education</u>. Washington, DC:

    Author. (ERIC Document Reproduction Service No.

    ED 279 603)

Nias, J. (1986). <u>Teacher socialisation: The individual in</u>

    <u>the system</u>. Sydney, AU: Cambridge Institute of

    Education.

Nikiforuk, A. (1993). <u>School's out</u>: <u>The catastrophe in</u>

    <u>public education and what we can do about it</u>.

    Toronto: MacFarlane, Walter & Ross.

Oleson, V. L., & Whittaker, E. W. (1968). <u>The silent</u>

    <u>dialogue</u>. San Fransisco: Jossey-Bass.

Otto, L. B., & Haller, A. O. (1979). Evidence for a social psychological view of the status attainment process: Four studies compared. Social Forces, 57, 887-914.

Pascarella, E. (1980). Student-faculty informal contact and college outcomes. Review of Educational Research, 50, 545-595.

Pascarella, E. (1985). College environmental influences on learning and cognitive development: A critical review and synthesis. In J. Smart (Ed.), Higher Education: Handbook of theory and research (Vol.1). New York: Agathon.

Pascarella, E., & Terenzini, P. (1977). Patterns of student-faculty informal interaction beyond the classroom and voluntary freshman attrition. Journal of Higher Education, 48, 540-552.

Pascarella, E., & Terenzini, P. (1991). How college affects students: Findings and insights from twenty years of research. San Fransisco: Jossey-Bass.

Pavalko, R. (1970). Recruitment to teaching: Patterns of selection and retention. Sociology of Education, 43, 340-353.

Pedhazur, E. J. (1982). Multiple regression in behavioral research: Explanation and prediction. New York: Holt, Rinehart, and Winston.

Piazza, T. (1980). The analysis of attitude items. American Journal of Sociology, 86, 584-603.

Powers, W. T. (1973). Behaviour: The control of perception. Chicago: Aldine.

Radwanski, G. (1987). Ontario study of the relevance of education and the issue of dropouts. (Report No. 72711935). Toronto: Ministry of Education.

Roberts, L. W. (1990). Clinical sociology with individuals and families. In H. M. Rebach & J. G. Brahn (Eds.), Handbook of clinical sociology (pp. 143-163). New York: Plenum.

Roberts, L. W., & Clifton, R. A. (1988). Innuit attitudes and cooperative learning. McGill Journal of Education, 23, 213-230.

Roberts, L. W., & Clifton, R. A. (1991). Measuring the quality of life of university students. (Research Monograph Series No. 1). Winnipeg, MB: University of Manitoba, Centre for Higher Education.

Rosenberg, M. (1979). Conceiving the self. New York: Basic.

Rosenberg, M., Suchman, E. A., & Goldsen, R. K. (1957). Occupations and values. Glencoe, IL: Free Press.

Santee, R. T., & Jackson, S. E. (1979). Commitment to self-identification: A sociopsychological approach to personality. Human Relations, 32, 141-158.

Sarbin, T. R., & Allen, V. L. (1968). Role theory. In G. Lindsey & E. Aronson (Eds.). The handbook of social psychology. Reading, MA: Addison-Wesley.

Sarbin, T. R., & Scheibe, K. E. (1983). Studies in social
    identity. New York: Praeger.

Schlechty, P. C., & Vance, V. S. (1981). Do academically
    able teachers leave education? The North Carolina case.
    Phi Delta Kappan, 10, 106-112.

Sewell, W. H., Haller, A. O., & Ohlendorf, G. (1970). The
    educational amd early occupational attainment process:
    Replications and revisions. American Sociological
    Review, 35, 1014-1027.

Sewell, W. H., Haller, A. O., & Portes, A. (1969). The
    educational and early occupational attainment process.
    American Sociological Review, 34, 303-316.

Sewell, W. H., & Hauser, R. (1980). The Wisconsin
    longtitudinal study of social and psychological factors
    in aspirations and achievements. In A. Kerkhoff (Ed.),
    Research in the sociology of education and socialization.
    (Vol. 1). Greenwich, CT: JAI Press.

Sherlock, B. J., & Morris, R. T. (1967). The evolution of a
    professional: A paradigm. Sociological Inquiry, 37, 27-
    46.

Shibutani, T. (1955). Reference groups as perspectives.
    American Journal of Sociology, 60, 562-569.

Sieber, S. D. (1974). Toward a theory of role accumulation.
    American Sociological Review, 39, 567-578.

Simpson, I. H. (1979). <u>From student to nurse: A longitudinal study of socialization</u>. London: Cambridge University Press.

Sizer, T. (1984). <u>Horace's compromise</u>: <u>The dilemma of the American high school</u>. Boston: Houghton Mifflin.

Skipper Jr., J. K., Guenther, A. L., & Nass, G. (1972). The sacredness of .05: A note concerning the uses of statistical levels of significance in social science. In R. E. Kirk (Ed.), <u>Statistical issues</u>: <u>A reader for the behavioral sciences</u> (pp. 141-145). Monterey, CA: Brooks/ Cole.

Specht, D. A., & Warren, R. D. (1975). Comparing causal models. In D. R. Heise (Ed.), <u>Sociological methodology</u> (pp. 46-82). San Fransisco: Jossey-Bass.

Steering Group on Prosperity. (1992). <u>Inventing our future</u>. Ottawa: Supply and Services Canada.

Stoeker, J., Pascarella, E., & Wolfle, L. (1988). Persistence in higher education: A nine-year test of a theoretical model. <u>Journal of College Student Development</u>, <u>29</u>, 196-209.

Stone, G. P. (1962). Appearance and the self. In A. M. Rose (Ed.). <u>Human behaviour and social processes</u>. Boston: Houghton-Mifflin.

Stryker, S. (1968). Identity salience and role performance: The relevance of symbolic interaction theory for family research. Journal of Marriage and the Family, 11, 558-564.

Stryker, S. (1980). Symbolic Interactionism. Menlo Park, CA: Benjamin/Cummings.

Stryker, S., & Serpe, R. T. (1982). Commitment, identity salience, and role behaviour: Theory and research example. In W. Ickes, & E. S. Knowles (Eds.). Personality, roles and social behaviour. New York: Springer-Verlag.

Sutherland, E. H. (1937). The professional thief. Chicago: University of Chicago Press.

Tabachnick, B. G., & Fidell, L. S. (1989). Using Multivariate Statistics. New York: Harper Collins.

Thielens, W. P. (1965). The socialization of law students. Unpublished doctoral dissertation, Columbia University, New York.

Thoits, P. A. (1983). Multiple identities and psychological well-being: A reformulation and test of the social isolation hypothesis. American Sociological Review, 48, 174-187.

Thoits, P. A. (1986). Multiple identities: Examining gender and marital status differences on distress. American Sociological Review, 51, 259-272.

Tinto, V. (1975). Dropout for higher education: A
theoretical synthesis of recent research. <u>Review of
Educational Research</u>, <u>45</u>, 89-125.

Tinto, V. (1987). <u>Leaving college</u>: <u>Rethinking the causes and
cures of student attrition</u>. Chicago: University of
Chicago Press.

Travisano, R. V. (1970). Alternation and conversion as
qualitatively different transformations. In G. P. Stone
& H. A. Farberman (Eds.), <u>Social psychology through
symbolic interaction</u>. Waltham, MA: Xerox College.

Twentieth Century Fund Task Force on Federal Elementary
and Secondary Education Policy. (1983). <u>Making the grade</u>.
New York: Author. (ERIC Document Reproduction Service No.
ED 233 112)

Velez, W. (1985). Finishing college: The effects of college
type. <u>Sociology of Education</u>, <u>58</u>, 191-200.

Wagstaff, R., & Mahmoudi, H. (1976). Relation of study
behaviours and employment to academic performance.
<u>Psychological Reports</u>, <u>38</u>, 380-382.

Webb, R. B., & Sherman, R. R. (1989). <u>Schooling and Society</u>.
New York: Macmillan.

Weigert, A. J., Teitge, J. S., & Teitge, D. W. (1986).
<u>Society and identity</u>. Cambridge: Cambridge University
Press.

White, S. B., Reynolds, P. D., Thomas, M. M., & Gitzlaff, N. J. (1993). Socioeconomic status and achievement revisited. Urban Education, 28, 328-343.

Williams, T., & Batten, M. (1981). The quality of school life. Hawthorn, Victoria: The Australian Council for Educational Research.

Wright, C. R. (1967). Changes in the occupational commitment of graduate sociology students: A research note. Sociological Inquiry, 37, 55-62.

Zabarenko, R. N., & Zabarenko, C. M. (1978). The doctor tree: Developmental stages in the growth of physicians. Pittsburgh, PA: University of Pittsburgh Press.

APPENDIX A

The University of Manitoba

QUALITY OF LIFE IN THE
FACULTY OF EDUCATION

This questionnaire is about your life in, and your attitudes towards, the Faculty of Education. There are no right or wrong answers -- we are just trying to find out how students feel about their experience in the Faculty.

PART I

Different people have different ideas about the overall quality of education received in the Faculty of Education. Listed below are some things that students and professors have said are important. Please remember that we are interested in your honest and frank opinions.

Assess each statement by checking the response which best describes your experiences. Please remember that the phrase "In the Faculty of Education I have learned.." applies to each item. That is, we want you to respond in terms of your experience in the Faculty of Education.

(check one line for each statement)

	Definitely Agree	Mostly Agree	Neutral	Mostly Disagree	Definitely Disagree

IN THE FACULTY OF EDUCATION I HAVE LEARNED...

.. a considerable amount about the subjects I plan to teach

.. to communicate clearly the subject matter I plan to teach

.. to evaluate the social-emotional performance of students

.. to analyze the theoretical perspectives of education

.. to synthesize various perspectives in the subjects I plan to teach

.. a considerable amount about the social-emotional development of children

.. to evaluate theoretical perspectives in education

.. to value myself as a prospective teacher

.. a considerable amount about the methodology of teaching

.. the professional responsibilities of teachers

.. a considerable amount about the psychological development of children

.. to write in a precise manner

.. to present lessons in a systematic manner

.. to assess teaching as a profession

.. to combine the elements of knowledge into new perspectives

.. to evaluate the subject areas I plan to teach

.. to value the research in education

.. to speak in a clear and concise manner

(check one line for each statement)

	Definitely Agree	Mostly Agree	Neutral	Mostly Disagree	Definitely Disagree

IN THE FACULTY OF EDUCATION I HAVE LEARNED...

.. to value the things I have learned about classroom discipline

.. to plan appropriate learning activities

.. to evaluate the academic performance of students

.. to use a variety of teaching strategies

.. to examine my own teaching critically

.. to combine information from a number of sources

.. to value the teaching skills I have learned

.. to use a variety of ways to maintain classroom discipline

.. to analyze teaching in terms of various models of teaching

.. to combine various teaching techniques

.. to evaluate theories of classroom management

.. to value the Faculty of Education

Finally, please respond to a general question:

.. Overall, I am satisfied with my program in the Faculty of Education

PART II

Each item below says that **The Faculty of Education is a place where** some particular thing happens to you or you feel a particular way. We would like you to respond to each statement by checking one of the response categories provided. Please remember that we are interested in your honest and frank opinions.

Please read each item carefully and check the answer which best describes how you feel. Please remember that the phrase "The Faculty of Education is a Place Where..." applies to each item.

(check one line for each statement)

	Definitely Agree	Mostly Agree	Neutral	Mostly Disagree	Definitely Disagree

THE FACULTY OF EDUCATION IS A PLACE WHERE...

.. I feel proud to be a student

.. the things I learn are important to me

.. people look up to me

.. professors treat me fairly

.. I feel depressed

.. I find it easy to get to know other people

.. I really get involved in my work

(check one line for each statement)

THE FACULTY OF EDUCATION IS A PLACE WHERE...	Definitely Agree	Mostly Agree	Neutral	Mostly Disagree	Definitely Disagree
.. I like learning	___	___	___	___	___
.. I enjoy being	___	___	___	___	___
.. students are very friendly	___	___	___	___	___
.. I feel restless	___	___	___	___	___
.. professors give me the marks I deserve	___	___	___	___	___
.. I have acquired skills that will be of use to me	___	___	___	___	___
.. I achieve a satisfactory standard in my work	___	___	___	___	___
.. people care about what I think	___	___	___	___	___
.. professors take a personal interest in helping me with my work	___	___	___	___	___
.. I am treated with respect	___	___	___	___	___
.. mixing with other people helps me to understand myself	___	___	___	___	___
.. I feel lonely	___	___	___	___	___
.. the things I learn will help me in my life	___	___	___	___	___
.. people think a lot of me	___	___	___	___	___
.. I know how to cope with work	___	___	___	___	___
.. professors help me to do my best	___	___	___	___	___
.. I get upset	___	___	___	___	___
.. I am given the chance to do work that really interests me	___	___	___	___	___
.. I know I can do well enough to be successful	___	___	___	___	___
.. the things I am taught are worthwhile learning	___	___	___	___	___
.. I feel important	___	___	___	___	___
.. professors are fair and just	___	___	___	___	___
.. I am a success as a student	___	___	___	___	___
.. I really like to go each day	___	___	___	___	___
.. I learn to get along with other people	___	___	___	___	___
.. I feel worried	___	___	___	___	___
.. the work I do is good preparation for my future	___	___	___	___	___
.. I feel proud of myself	___	___	___	___	___
.. other students accept me as I am	___	___	___	___	___
.. I have learned to work hard	___	___	___	___	___
.. I get on well with the other students in my class	___	___	___	___	___
.. I find that learning is a lot of fun	___	___	___	___	___
.. professors listen to what I say	___	___	___	___	___

PART III

In this part of the questionnaire we ask for some factual information about yourself. All of your answers to all of the questions are confidential, and the names of individual students will not be identified in our research report. We need this information in order to make statistical comparisons between the types of students in different programs.

1. Do you have an undergraduate university degree? ...Yes_____   ...No_____

2. Are you studying for an education degree following the completion of another degree?   ...Yes_____   ...No_____

3. How many credit hours of university work are you taking this academic year (Sept. - April) ? _____

4. Are you an undergraduate education student?   ...Yes_____   ...No_____   (If no, go to question 5)

(a) What undergraduate program are you enrolled in?

(Check one line)

.. I have not made a decision yet   _____

.. B.Ed.--Elementary   _____►   If you are studying elementary education, what stream are

.. B.Ed.--Secondary   _____   you in?   (Check one line)

.. B.Ed./B.Music   _____   .. Early childhood   _____

.. B.Ed./B.Hc.   _____   .. Faculty-based program   _____

.. U Of M/Red River College program   _____   .. School-based program   _____

.. Winnipeg Educational Center   _____

.. Other   _____

Please describe_____

(b) What are you most likely to be doing within six months of completing your B.Ed. degree? (check one or more lines)

.. I don't expect to complete a B.Ed.   _____   .. Further education   _____

.. Teach   _____   .. Staying at home   _____

.. Work at another job   _____   .. Other things   _____

.. Travel   _____   Please describe _____

5. Are you taking education courses as options for other university programs?   ...Yes_____   ...No_____

6. Are you a visiting student from the University of Winnipeg?   ...Yes_____   ...No_____

7. Are you a graduate student in the Faculty of Education?   ...Yes_____   ...No_____   (If no, go to question 8)

(a) What level of graduate program are you at?   (b) What department are you registered in?

.. Pre-Masters   _____   .. Educational Administration & Foundations   _____

.. Master's   _____   .. Educational Psychology   _____

.. Ph.D.   _____   .. Curriculum: Humanities & Social Sciences   _____

.. Other   _____   .. Curriculum: Mathematics & Natural Sciences   _____

Please describe_____   .. Other   _____

Please describe_____

(c) What are you most likely to be doing within six months of completing your graduate degree? (Check one or more)

.. I don't expect to complete a
   graduate degree _____   .. Further education _____

.. Teach _____   .. Staying at home _____

.. Work at another job _____   .. Other things _____

.. Travel _____   Please describe_____

8. How many years of university education do you have? If you have been a part-time student, then estimate the number of equivalent full-time years._____

9. Have you ever been employed as a teacher? ...No_____ ...Yes_____ If yes, how many years?_____

10. How good are you at your university work compared to other students in your year level?

.. A lot above average _____

.. A little above average_____

.. About average _____

.. A little below average_____

.. A lot below average_____

11. What is your grade point average?

..4.0--4.5_____   ..2.5--2.9_____   ..1.0--1.4_____

..3.5--3.9_____   ..2.0--2.4_____   ..0.0--0.9_____

..3.0--3.4_____   ..1.5--1.9_____

12. What is the highest level of education you expect to complete?

.. Less than a bachelor's degree_____   .. Pre-masters_____

.. A bachelor's degree_____   .. A master's degree_____

.. A second bachelor's degree_____   .. A doctorate degree_____

13. How much time do you spend on each of the following activities during a typical week? (estimate the number of hours)

.. Attending classes _____

.. Studying _____

.. Student teaching and/or voluntary time in schools _____

.. Paid employment _____

14. Please check how motivated you are to do well in your courses this year.

Unmotivated _____ _____ _____ _____ _____ Very motivated

15. What sex are you? ...Male_____ ...Female_____

16. How old are you? _____

17. What is your ethnic origin?

.. English_____   .. Polish_____

.. French_____   .. Scandanavian_____

.. German_____   .. Ukrainian_____.

.. Native Indian_____   .. Other_____   If *Other*, please state your ethnic origin_____

18. What was the highest level of education that your parents received?

(Check one line for each parent)

	Father	Mother
.. Elementary school	_____	_____
.. Some high school	_____	_____
.. Completed high school	_____	_____
.. Some technical, vocational training	_____	_____
.. Completed community college	_____	_____
.. Some university	_____	_____
.. Completed a Bachelor's degree (e.g., B.Ed., B.A.)	_____	_____
.. Some education at the graduate level	_____	_____
.. Completed graduate degree (e.g., M.Ed., Ph.D)	_____	_____

19. What are your parents' occupations? (If they are retired or deceased, please indicate the occupations they held.)

(check one line for each parent)

	Mother	Father
.. Self-employed professionals (e.g., Architect, Dentist, Engineer, M.D.)	_____	_____
.. Employed professionals (e.g., Accountant, School Teacher, University Teacher)	_____	_____
.. High level managers (e.g., President, Vice-President, Financial Manager)	_____	_____
.. Semi-professionals (e.g., cameraman, musician, photographer)	_____	_____
.. Technicians (e.g., Engineering technologist, Life sciences technician)	_____	_____
.. Middle managers in business or government	_____	_____
.. Supervisors, Foremen and women	_____	_____
.. Skilled clerical, sales, and service (e.g., insurance agent, salesman)	_____	_____
.. Skilled crafts and trades (e.g., cabinet maker, painter, plumber)	_____	_____
.. Farmers	_____	_____
.. Semi-skilled clerical, sales, and service (e.g., office clerk, library file clerk)	_____	_____
.. Semi-skilled manual (e.g., bus driver, cook, taxi driver)	_____	_____
.. Unskilled clerical, sales, and service (e.g., mail carrier, nursing aide, orderly)	_____	_____
.. Unskilled manual (e.g., chambermaid, elevator operator, janitor)	_____	_____
.. Farm labourers	_____	_____
.. Other	_____	_____

Please describe_____

SOCIAL IDENTITIES

In the following instrument, you are asked to tell about your "social identities." Identities are labels that people can use to describe themselves. For example, some people identify themselves as skiers; others identify themselves as roommates.

Below are listed seven identity categories and a brief definition of each one. Also, for each category several examples of possible identities are given. Please read these category definitions carefully and look at the examples that illustrate the kinds of identities contained in each category.

IDENTITY CATEGORIES

CATEGORY	DEFINITION
Kinship:	labels that describe your relationship to family members (e.g., parent, sister, cousin)
Peer:	labels which describe acquaintances you have with people your own age (e.g., pal, friend, roommate)
Associational:	labels for membership in those clubs, groups, and organizations in which you formally or informally participate (e.g., president, member, treasurer)
Teaching Profession:	labels that describe your relationship to the teaching profession (e.g., student, teacher, vice-principal)
Religious/spiritual:	labels that describe your religious or spiritual orientation (e.g., Catholic, atheist, Hindu)
Romantic:	labels that describe close, affectionate relationships in which you are romantically involved (e.g., lover, spouse, girlfriend)
Recreational:	labels that describe what you do during your leisure time (e.g., guitarist, skier, knitter)

INSTRUCTIONS:

1. Think about the identities you have in each of these 7 categories. Ask yourself: "How important is each identity in my life from week to week?" After you have thought about their importance for a minute, go on to the next page.

2. For any particular person, some of these identity categories are more important than others. Now that you have thought about the place of each identity in your life, rank the identity categories in the order of their importance to you.

For your convenience, the 7 categories have been listed below. Write the identity category that is most important to you in the first blank ("1"); then, write the second most important category in the next blank, and so on, putting the least important one in the last blank ("7"). Be sure to use all 7 categories.

Kinship
Peer
Associational
Teaching Profession
Religious/Spiritual
Romantic
Recreational   Rating

Most Important   1. _____   ____

                    2. _____   ____

                    3. _____   ____

                    4. _____   ____

                    5. _____   ____

                    6. _____   ____

Least Important   7. _____   ____

3. Now, go back and look at the way you rank ordered the identity categories. Ask yourself the question: "If, for some reason, I had to give up my identity in one of these categories, would I do so in the order listed here? That is, would I give up the one at the bottom first, then the next one, and so on up the line giving up last the one at the top of the list?" If not, change the order of the identity categories so that it is correct.

4. Finally, next to each identity category you completed above, rate its importance to you using the scale below. The numbers on the scale should be treated like the numbers on a ruler, with equal distances separating them. You may assign the same number to two or more consecutive identities, and you may use any number from 0 to 100.

Of no importance to me	Slightly important	Moderately important	Quite important	As important to me as I can imagine

```
L_._._._._|_._._._._|_._._._._|_._._._._|
0          25         50         75        100
```
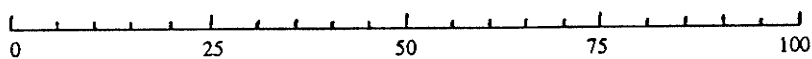
TEACHER IDENTITY

The following statements concern your personal feelings and thoughts about being a teacher. For each of the items read the statement through carefully since no two are exactly alike. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T in front of the statement. If a statement is FALSE or MOSTLY FALSE as applied to you, circle the F in front of the statement.

MOSTLY TRUE	MOSTLY FALSE	
T	F	1. When people are discussing the topic of teaching, I probably will listen and/or join the conversation.
T	F	2. If I come across an article related to teaching, I probably will read it with interest.
T	F	3. If problems develop in my life, I try to think them through as they affect my teaching ability.
T	F	4. With respect to teaching, I don't care if I make mistakes.
T	F	5. During the past week, I have had no conversations about teaching.
T	F	6. During the past week, I have made 10 or more decisions in which my interest in teaching has influenced the decision process.
T	F	7. I rarely or never think about how I can be a better teacher.
T	F	8. Compared to other concerns, I worry little about how good a teacher I am.
T	F	9. If I had to give up something, being a teacher is the last thing I would give up.
T	F	10. When I am involved in activities related to teaching, I usually feel indifferent.
T	F	11. If I was a better teacher than everyone else, it would make little difference to me.
T	F	12. When I can, I seek out situations in which I can express myself as a teacher.
T	F	13. Being a teacher is not important to me.
T	F	14. I feel bad when I think I am not being a good teacher.
T	F	15. I rarely devote much time to my teaching interests.
T	F	16. When I meet new people, it is important to me that they know I am a teacher.
T	F	17. I typically organize my day so that I can work toward goals that are related to my teaching.
T	F	18. Being a teacher is of little value to me.
T	F	19. Being a teacher has virtually no effect on my life.
T	F	20. I enjoy it when people encourage me to be a teacher.
T	F	21. I would feel a great sense of loss if suddenly I were unable to be a teacher.
T	F	22. I am strongly committed to being a good teacher.
T	F	23. If people could know only one thing about me, I would want them to know I am a teacher.

THANK YOU VERY MUCH. WE REALLY APPRECIATE THE TIME AND EFFORT YOU HAVE GIVEN IN ANSWERING OUR QUESTIONS.

IF YOU HAVE ANY COMMENTS OR SUGGESTIONS, PLEASE TAKE A FEW MINUTES TO JOT THEM DOWN.

APPENDIX B

Table B-1. The Effect of Sub-sample on the Institutional Integration Variables

Vars.	Interaction with Professors		Interaction with Students		Cognitive Demands		Positive Affect	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Sub-sample		.152**		.067		.045		.175***
C14	-.076	-.054	.098	.108	.124*	.131*	-.220***	.194***
C2	-.062	-.063	.004	.004	-.095	-.096	-.047	-.048
C5	-.009	-.031	-.114*	-.124*	-.149*	-.155**	-.018	-.043
C3	.021	.021	.057	.057	.044	.045	.024	.025
C25	-.008	-.015	.013	.010	.007	.005	.031	.024
C26	.055	.060	-.059	-.056	-.053	-.051	.096	.102*
C31	-.064	-.052	.101	.106	.037	.040	.006	.020
C28	-.002	-.024	.018	.008	.008	.001	-.039	-.065
C29	.014	-.002	-.040	-.047	-.046	-.050	.097	.079
C23	-.007	-.010	-.048	-.050	-.034	-.034	.019	.016
R^2	.019	.040	.038	.042	.037	.039	.067	.096

* $p < .05$
** $p < .01$
*** $p < .001$

Table B-2. The Effect of Sub-sample on the Individual Social Psychological Variables

Variables	Motivation		Academic Self-Concept	
	Step 1	Step 2	Step 1	Step 2
Sub-sample		.088*		-.002
C14	-.015	-.006	.189*	.188***
C2	-.042	-.044	-.023	-.022
C5	-.059	-.071	.056	.056
C3	.069	.070	.157***	.157***
C25	.118*	.114*	-.013	-.013
C26	.195***	.200*	.207***	.207***
C31	-.067	-.061	.020	.020
C28	-.024	-.038	.086	.087
C29	.014	.007	.055	.055
C23	-.019	-.020	.073	.073
INTPR	.010	.002	.115*	.115*
INTST	.011	.015	.133*	.133*
COGDEM	.074	.076	-.134**	-.135**
POSAFF	.333**	.320***	.026	.026
R^2	.220	.220	.180	.180

*   p<.05
** p<.01
*** p<.001

Table B-3. The Effect of Sub-sample on Grade Point Average

	Grade Point Average	
Variables	Step 1	Step 2
Sub-sample		.087*
C2	.143***	.141***
C5	.015	.002
C3	.035	.036
C25	.060	.058
C26	.166***	.172***
C31	-.042	-.037
C29	-.014	-.021
C23	-.023	-.025
INTPR	.022	.014
INTST	.104*	.108*
COGDEM	-.047	-.044
POSAFF	-.029	-.039
C24	.072	.063
C17	.565***	.567***
R^2	.470	.480

*   p<.05
**   p<.01
***   p<.001

Table B-4. The Effect of Sub-sample on the Professional Identity Variables

	Commitment to Learning		Commitment to Teaching	
Variables	Step 1	Step 2	Step 1	Step 2
Sub-sample		.039		.052
C14	-.074*	-.071	.121*	.116*
C2	-.019	-.019	-.034	-.034
C5	-.065*	-.070*	-.099*	-.092
C3	-.067*	-.066*	.035	.034
C25	.087**	.086**	.061	.062
C26	.033	.037	.134*	.129**
C31	.009	.011	.004	.002
C28	-.035	-.041	-.034	-.026
C29	.022	.019	.015	.020
C23	-.027	-.027	.101*	.102*
INTPR	.156	.153***	.026	.030
INTST	-.014***	-.011	.152**	.149**
COGDEM	.256***	.257***	.040	.038
POSAFF	.434***	.429***	.043	.049
C24	.173***	.169***	.221***	.226***
C17	-.056	-.052	-.037	-.043
C18	.007	.008	-.030	-.023
R^2	.640	.640	.170	.180

*   p<.05
**   p<.01
***   p<.001