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Differences between selected demographic variables and nontraditional age, degree-seeking, undergraduate student persistence in higher education

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by

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CHAPTER I. INTRODUCTION

As higher education progresses through the 1990s, there is increasing concern because the number of traditional college-age students (18-22 years old) is declining; thus, many college and university enrollments could decrease in the future. According to U.S. Department of Education statistics, approximately 60% of college students in 1987 were 22 years or older; 47% of these students were part-time, and 85% of the part-time students were 22 years or older (Office of Adult Learning Services, 1989). Between 1985 and the early 1990's, the 18 year old cohort will decrease by 13% (O'Keefe, 1985). By 1997, the traditional college-bound group of 18 to 22-year olds will have declined by 23% (Carnegie Council on Policy Studies in Higher Education, 1980). Consequently, our nation's colleges and universities will need to look to student populations other than 18-to-22 year olds to maintain desired enrollment levels (Hodgkinson, 1983).

As the number of traditional aged students has declined, colleges and universities have begun to recruit older students to fill the empty seats in their institutions. In fact, during the writing of this thesis, learners aged 26 or older will for the first time outnumber traditional college-age students in undergraduate education (Schlossberg, Lynch, & Chickering, 1989). While older students are attractive as a "new" source of students, they have different needs and colleges or universities need to respond in different ways than they do for 18 to 22 year old students.

One of the differences of older students is that they are less likely to finish a degree program (Bean & Metzner, 1985). Older students can come

into college with eagerness and commitment, but may leave if they perceive that they do not matter to the institution (Schlossberg, 1987). In discussing the unique needs of nontraditional age students, Schlossberg, Lassalle, and Golec (1988) use the term *mattering*: Students need to feel that they occupy a viable place in the campus environment; they need to feel appreciated and noticed. Students who feel they matter to the institution tend to remain more involved in the learning environment, and students who feel they matter to an institution tend to persist at that institution (Schlossberg, Lynch, & Chickering, 1989). Older students tend to be less integrated into the campus environment; they spend less time on campus and rely less upon campus activities for integration into the environment (Rotter, 1987).

In fact, older students who return to college are often in transition and may be experiencing crises in their lives (Nordstrom, 1989). They want assistance and support in dealing with the bureaucracy of college without becoming an active part of the institution (Swift, 1987). Thus, they may behave in ways that make it difficult for them to matter to someone in the institution.

Theoretical Background

Many of the studies conducted over the last 50 years have examined the phenomenon of persistence in college by examining 18 to 22 year old students at four-year residential campuses. In recent years, the institutions of postsecondary education have become more diverse and more distinctive. Too, the types of students, who have enrolled in

postsecondary education have become more diverse in academic preparation, family background, ethnicity, and age (Noel, 1989; Romano, 1987). Thus, the task of explaining the phenomenon of persistence in college has become more challenging and complex.

Many recent studies explain persistence in college using the framework of Tinto's (1975) model, or of models derived from Tinto's work (Bean, 1986). Tinto's (1975) model is the most widely recognized and tested model of student retention (Bean, 1986; Pascarella, Smart, & Ethington, 1986). The model emphasizes both academic and social integration, which results in goal and institutional commitment. The model illustrates the concept that persistence in an institution is dependent on two factors, academic integration and social integration. In Tinto's (1975) model, an individual's personal characteristics are seen as influencing both academic and social integration. Integration into the academic and social systems of the college leads to new levels of commitment to the college and, subsequently, to persistence to graduation.

Studies of persistence have validated portions of Tinto's model. The influence of academic and social integration on retention of students, for example, has been supported in a number of studies (Nelson, Scott, & Bryan, 1984; Pascarella & Terenzini, 1980; Pascarella & Terenzini, 1983). Tinto further developed his model (1987) to reflect recent research findings and to incorporate Van Gennup's (1960) work on the rites of passage in tribal societies. According to Tinto's expanded model, persistence results from a process of interactions between a student with certain attributes, abilities, intentions, and commitments and other members of the academic

and social systems of the institution. Positive experiences increase academic and social integration, which affect intentions and commitments to both the goal of college completion and to the institution, itself. Tinto's (1987) model, while recognizing the importance of external variables on the persistence process, still places primary emphasis on academic and social integration within the institution.

Schlossberg and Warren (1985) defined social integration for older students using the construct of mattering. They interviewed older students, who said that the reason for their continued engagement in learning was their perception that they mattered to an advisor and to the institution in which they were enrolled. Further research by Chapman and Pascarella (1983); Gilligan (1982); Kasworm (1990); Noel, Levitz, and Saluri (1987); Rotter (1987); Swift (1987); and Toy (1985) has supported the theory that a caring attitude on the part of faculty, staff, and peers is very important for older student persistence in the learning environment of an institution.

According to Schlossberg, Lynch, and Chickering (1989), "When an adult thinks about returning to school, does so, and then leaves, he or she is in transition (p. 13)." Attending college involves a series of transitions: "moving in," "moving through," and "moving on." Schlossberg, Lynch, and Chickering (1989) state that the need for supportive interaction with faculty, staff, and peers is greatest when the student is "moving through" the learning environment.

Moving through the learning environment occurs after a student moves in or "learns the ropes" (Schlossberg, Lynch, & Chickering, 1989). The student must then decide whether or not to commit to the transition of

moving through at that particular institution. According to Schlossberg, Lynch, and Chickering (1989), "The extent to which a transition pervades daily life affects the degree to which one must adjust (p. 17)." Therefore, interaction with supportive peers, faculty, and staff becomes very important in compensating for the stress from the older student's other roles; stress that can be exacerbated from making and maintaining the transition into the learning environment. The supported student is able to balance his or her academic activities with his or her roles in the external environment and to re-establish equilibrium in the new environment after the transition.

Without the recognition and a sense that the student occupies a important place in the campus environment, the older student will not feel that his or her presence is significant, nor that he or she matters. Peer, faculty, and staff support can make the difference; the student needs to have a sense of belonging in the institution. With ownership of some aspect of the learning environment, the student will continue to be engaged in that particular environment (Schlossberg, Lynch, & Chickering, 1989). Those students who matter to the institution and staff receive services and programs designed to help them enter, move through, and exit college successfully.

Purpose of the Study

The purpose of this study was to examine the social integration of older students using subscales of the Mattering Scale as a measure of social integration. Four demographic or background variables which have been

found to be related to social integration (Bean & Metzner, 1985) were used in the study: age, enrollment status, gender, and marital status. The relationship between the students' scores on the mattering scale and each of the demographic variables was examined to determine if the students' background influenced their social integration.

The population consisted of degree-seeking, nontraditional age (25 years or older), undergraduate students. Since the older student population is heterogeneous in nature, previous research has tended to yield ambiguous findings concerning what type of older undergraduate student becomes integrated and persists in a higher education learning environment (Bean & Metzner, 1985; Metzner & Bean, 1987). Consequently, this study examined only a small, homogeneous segment of the nontraditional age population: degree-seeking undergraduates.

The researcher has used Tinto's (1975) model to study older students' social integration in college by employing the Mattering Scale as a measure of social integration. The Mattering Scale operationalizes the construct of mattering (Allen & Wang, 1988; Hertzog, Hoy, & Wright, 1987; Hertzog, 1989). Three subscales of the Mattering Scale examine interpersonal relationships: peer interaction, faculty interaction, and advising (Schlossberg, Lynch, & Chickering, 1989; Schlossberg, Lassalle, & Golec, 1988). According to Schlossberg, Lynch, and Chickering (1989), relationships are a means of assessing integration.

In order to persist to graduation at Iowa State University, Tinto's (1975) theory suggests that students must experience both academic integration and social integration. This study examines the degree of social

integration older students experience at Iowa State University. Since the students had persisted nearly a year at Iowa State University, it was assumed that their interactions with peers, faculty, or advisors had caused them to be integrated socially at Iowa State University. Social integration was measured using three subscales from the Mattering Scale: peer interaction, faculty interaction, and advising. Thus, the question was asked whether background characteristics influenced the degree of social integration students experienced.

Research Question of the Study

Answers to the research question of the study were found in the data drawn from the Fall, 1989, cohort of degree-seeking, first-time, nontraditional age, undergraduate students at Iowa State University, who were still enrolled during Spring, 1990. A series of analyses were run examining the students' responses to survey questions in an attempt to answer the following question: Does mattering happen differentially based upon ethnicity, gender, enrollment status, marital status, and age?

Hypotheses of the Study

Null Hypothesis 1

There will be no differences between men's and women's scores on the

three mattering subscales: peer interaction, faculty interaction, and advising.

Null Hypothesis 2

There will be no differences among students' of different age ranges scores on the three mattering subscales: peer interaction, faculty interaction, and advising.

Null Hypothesis 3

There will be no differences among students' scores, based upon the number of credit hours enrolled, on the three mattering subscales: peer interaction, faculty interaction, and advising.

Null Hypothesis 4

There will be no differences among students' scores, based upon marital status, on the three mattering subscales: peer interaction, faculty interaction, and advising.

Null Hypothesis 5

There will be no differences among students' scores, based upon ethnicity, on the three mattering subscales: peer interaction, faculty interaction, and advising.

Operational Definitions

Adult (syn. *Nontraditional Age*) students were defined to be 25 years of age or older.

Mattering refers to the beliefs people have that they matter to someone else; others care about them and appreciate them (Schlossberg, Lynch, &

Chickering, 1989). This feeling of mattering tends to keep adult students engaged in the learning process.

Moving In occurs when a student identifies and assesses his/her readiness for a learning transition in order to take on the role of an adult learner (Schlossberg, Lynch, & Chickering, 1989, p. 34).

Moving Through occurs when a student, mainstreamed in the academic environment, re-evaluates his/her commitment to the environment, and persists in that environment until completion of his/her educational goals (Schlossberg, Lynch, & Chickering, 1989, p. 108).

Moving On occurs when a student is preparing to leave the learning environment for a transition to "new beginnings, new institutions, new activities" (Schlossberg, Lynch, & Chickering, 1989, p. 146).

Persistence was defined as staying engaged in the learning environment of a college until degree completion.

Retention was defined as the set of characteristics of an institution that an individual initially attracted to it will regard as both desirable and profitable for continued association (Dressel & Simpson, 1983). Effective retention programs not only provide continuing assistance to adult students, but also act to ensure the integration of all students as equal and competent members of the institution.

Assumptions of the Study

The following assumptions were made with regard to this study:

1. Students are integrated in the institution, in order to persist.

2. The survey questionnaire administered to the research subjects was valid as a measure of social integration.
3. The research subjects gave honest responses on the items of the survey questionnaire.
4. The research subjects were able to correctly interpret the survey questionnaire items.
5. Students who were enrolled for at least two consecutive semesters at Iowa State had been sufficiently mainstreamed into the campus environment, so that their attitudes toward selected educational experiences were representative of adult students persisting to a degree (Theophilides, Terenzini, & Lorang, 1984; Webb, 1987).

Limitations of the Study

1. The population of this study was limited to degree-seeking, adult, undergraduate students, who were admitted to Iowa State University in Fall, 1989, and were still enrolled at Iowa State University during Spring, 1990. Only U. S. national students were surveyed, since international students have historically been studied as a separate group for retention purposes.
2. In order to reduce ambiguity in research results (Ewell, 1983) from the actions of attainers (students leaving college prior to graduation, but after achieving a personal goal) or stopouts

(students who temporarily interrupt their enrollment for at least one semester with the intent of returning at a later date), nondegree-seeking students were omitted from the sample population.

3. The study employed an ex post facto design due to the researcher's time constraints.

Organization of Remainder of the Study

Chapter II is the review of the literature. It reviews the major theories and studies conducted on adult student persistence.

The methods and procedures for the study are discussed in Chapter III. The chapter includes a description of the instrument and subjects used in the study. A detailed description of the procedures followed in conducting the study as well as types of data analysis used conclude the chapter.

The results of the data analysis are contained in Chapter IV. The findings and results based on the testing of the hypotheses and research question are presented and discussed.

Finally, a summary of the study is presented in Chapter V. The summary is followed by discussion, conclusions, and recommendations for future research.

CHAPTER II. REVIEW OF LITERATURE

There are many studies dealing with persistence of traditional college-age students, but few about persistence of older students (Astin, 1975; Bean & Metzner, 1985; Leptak, 1989). Data about older students who enter, move through, and exit from the university environment upon completion of a bacclaureate degree program are lacking. Furthermore, data that are gathered about older students are complicated by the heterogeneity of the population; there is no typical older student (Bodensteiner, 1989; Gallien, 1986; Neugarten & Neugarten, 1982). The purpose of this chapter is to examine the literature and research related to older students as they persist in moving through the collegiate experience to a degree.

Enrollment Trends

The demographics of the United States suggest that the population will soon be dominated by persons in their middle age. Individuals born during the baby boom are now between 22 and 34 years of age; the older students between 22 and 34 are the largest number of participants in educational activities. Therefore, increased participation in all forms of adult education can be expected (Cross, 1981). With such an increase in older students, institutions of higher education need to be well-informed about the characteristics of older students in order to make college campuses more inviting to them (Bodensteiner, 1989).

Between 1986 and 1992, Iowa's high school population will decrease by 18%. Between 1986 and 2004, the decrease in Iowa's high school population will be 24% (Aslanian, 1989). Roughly 25% of Iowa State University's student population were 25 years of age or older in the spring, 1989. Among undergraduates, roughly 13% were 25 years of age and older; typically, the older undergraduate student was in his or her 30's (Aslanian, 1989).

Despite efforts to reduce student dropout, the attrition rate remains nearly constant at 47% for four-year public institutions of higher education (Beal and Noel, 1980), with nontraditional age students showing a higher rate of attrition than their traditional age counterparts (Astin, 1975, Fetters, 1977). Therefore, a question is raised: How do older students persist? According to Bean and Metzner (1985), "the reasons why older students drop out of school are not well understood (p. 16)."

Mattering

Schlossberg, Lynch, and Chickering's (1989) discussion of mattering theory concentrates on the importance of a support system for older students moving through the collegiate environment. This support system helps to compensate for areas of stress caused by the older student's transitions in the social and academic areas of the college environment.

According to Schlossberg, Lynch, and Chickering (1989), "When an adult thinks about returning to school, does so, and then leaves, he or she is in transition (p. 13)." Attending college involves a series of transitions:

"moving in," "moving through," and "moving on." Schlossberg, Lynch, and Chickering (1989) state that the need for supportive interaction with faculty, staff, and peers is greatest when the student is "moving through" the learning environment.

Moving through the learning environment occurs after a student moves in or "learns the ropes" (Schlossberg, Lynch, & Chickering, 1989). The student must then decide whether or not to commit to the transition of moving through at that particular institution. According to Schlossberg, Lynch, and Chickering (1989), "The extent to which a transition pervades daily life affects the degree to which one must adjust (p. 17)." Therefore, interaction with supportive peers, faculty, and staff becomes very important in compensating for the stress from the older student's other roles; stress that can be exacerbated from making and maintaining the transition into the learning environment. The supported student is able to balance his or her academic activities with his or her roles in the external environment and to re-establish equilibrium in the new environment after the transition.

Schlossberg and Warren (1985) defined social integration for older students using the construct of mattering. They interviewed older students, who said that the reason for their continued engagement in learning was their perception that they mattered to an advisor and to the institution in which they were enrolled. Further research by Chapman and Pascarella (1983); Gilligan (1982); Kasworm (1990); Noel, Levitz, and Saluri (1987); Rotter (1987); Swift (1987); and Toy (1985) has supported the theory that a caring attitude on the part of faculty, staff, and peers is very important for older student persistence in the learning environment of an institution.

Schlossberg, Lasselle, and Golec (1988) devised a scale to measure attitudes of adults moving through the collegiate environment. This scale is a measurement of the construct of mattering and indicates the extent to which students feel they matter to the institution. According to Schlossberg, Lynch, and Chickering (1989), mattering influences integration into a learning environment, which in turn can influence persistence in that environment.

The Mattering Scale for Adult Students in Higher Education was developed with a grant from The Center for Educational Research and Development at the University of Maryland at College Park. The scale's purpose was to measure the construct of mattering (Allen & Wang, 1988). Or, as Schlossberg, Lynch, and Chickering (1989) stated: "Are the policies, practices, and classroom environment geared to making people feel they matter (p. 22)?"

When moving through a college environment, adult students need to feel appreciated and noticed. This need to matter to the institution helps keep the student engaged in learning at that particular institution of higher education (Schlossberg, Lynch, & Chickering, 1989). The Mattering Scale was developed to assist higher education personnel in determining whether the institution's policies, practices, and classroom environments are supportive of adults moving through the educational experience; do adult students feel they matter?

Without the recognition and a sense that the student occupies a important place in the campus environment, the older student will not feel that his or her presence is significant, nor that he or she matters. Peer,

faculty, and staff support can make the difference; the student needs to have a sense of belonging in the institution. With ownership of some aspect of the learning environment, the student will continue to be engaged in that particular environment (Schlossberg, Lynch, & Chickering, 1989). Those students who matter to the institution and staff receive services and programs designed to help them enter, move through, and exit college successfully.

Persistence

College student persistence has been the subject of research for over sixty years. Summerskill's (1962) review of literature on the college persister lists over 180 references spanning the period from 1923 to 1959. Marsh's (1966) ten-year review adds substantially to this number.

The conceptual model developed by Tinto (1975) is the most widely tested model of student persistence for public, four-year institutions of higher education (Bean, 1986; Pascarella, Smart, & Ethington, 1986). Tinto synthesized research from the sixties and early seventies and postulated a theoretical institutional model of persistence based upon a combination of Durkheim's (1951) theory of suicide and a cost-benefit analysis of student decision-making formulated by Spady (1970). Tinto's model specifies that degree-seeking students entering college bring with them a variety of attributes and background characteristics that have an impact on the expectations they hold toward the college experience. These commitments change during the student's stay in college as a result of integration into the

academic and social systems of that institution. The level to which a student integrates into those systems is the primary determinant of choosing to stay and meet objectives or to drop out of the institution. Research literature tends to confirm Tinto's model, especially for traditional college-age students (Pascarella & Chapman, 1983; Terenzini, Pascarella, Theophilides, & Lorang, 1985).

Tinto (1987) modified his (1975) model to account for the results of research by Pascarella and Terenzini (1983) and to also incorporate Van Gennup's (1960) work on transitions and rites of passage in tribal societies. According to Van Gennup, transition is the period in which the individual encounters a new group and begins to develop patterns of interaction in order to establish membership in that group. During transition, the individual must become mainstreamed into the new environment by learning the skills and knowledge needed to function in the new role in the group. Having completed the rites of passage, the individual is fully integrated into the culture of the new group.

Tinto's model explains how interactions among different individuals within the academic and social systems of the institution lead individuals of different characteristics to withdraw from the institution prior to degree completion (Tinto, 1987). According to Tinto, persistence results from a longitudinal process of positive interactions between the student, who has specific characteristics, and other members of the school's learning environment.

Bean and Metzner (1985) developed a model of nontraditional undergraduate persistence that altered Tinto's model in an attempt to

explain the differences between the traditional and nontraditional student persistence process. Bean and Metzner conducted a comprehensive review of the literature on persistence in order to create a model of adult student persistence. They reviewed research on both traditional and nontraditional undergraduate students as well as descriptive literature on nontraditional undergraduate students. The persistence model they developed contained four sets of variables. The defining and background variables included age, enrollment status (full-time or part-time), residence status, educational goals, high school academic performance, ethnicity, and gender. The academic variables included study skills and habits, academic advising, absenteeism, certainty with regard to major, and course availability. The environmental variables included finances, hours of employment, outside encouragement, family responsibility, opportunity to transfer, and social integration. The academic outcomes included grade point average, perceived utility of degree, satisfaction with student role, level of goal commitment, stress, and intent to leave.

In Bean and Metzner's (1985) model, background variables of age, enrollment status, residence, educational goals, high school performance, ethnicity, and gender have direct effects upon a student's persistence in the collegiate environment. Each of these variables will be defined and each variable's relationship to nontraditional age student persistence will be examined through a search of the literature.

Age

The Bean and Metzner (1985) model assumes that older students have more external environment concerns than younger students, and

consequently do not persist as often. Persistence studies by Getzlaf, Sedlacek, Kearney, and Blackwell (1984); Haggerty (1985); and Hughes (1983) report a negative correlation between students' age and persistence in college. Metzner and Bean (1987) emphasize the importance of continued research into the effects of age upon persistence.

Enrollment Status

This variable denotes the number of credits for which the student was enrolled during the term of the study. Students are considered to be part-time if they register for fewer than twelve credit hours during the semester. Bean and Metzner's (1985) model assumes that because of older students' other responsibilities, they tend to enroll on a part-time basis more often than younger students. Part-time students show a lower rate of persistence than full-time students (Hughes, 1983; Lenning, Beal, & Sauer, 1980). Metzner and Bean (1987) confirmed that hours enrolled had a significant effect upon persistence.

Residence

In the Bean and Metzner (1985) model, it is assumed that few nontraditional students live on campus. The literature does not support a significant relationship between residence and nontraditional age student persistence in four-year residential universities (Bean & Metzner, 1985; Metzner & Bean, 1987).

Educational Goals

No research was found by Bean and Metzner (1985) that adequately examined the correlation between educational goals and persistence of nontraditional students or that distinguished between persisters and

nonpersisters. Educational goals were included in the model because a need exists to analyze degree-seeking students separate from nondegree-seeking students (Alfred, 1973; Bean & Metzner, 1985).

High School Academic Performance

Bean and Metzner (1985) cautioned that extremely limited research has been conducted with older college students and the relationship of high school academic performance measures to nontraditional age student persistence. Aitken (1982), Hossler (1984), and Voorhees (1984) found that high school rank, grades, or SAT/ACT scores were not predictive of student persistence. In Bean and Metzner's (1985) model, high school performance indirectly affects persistence through its direct effect upon college grade point average.

Ethnicity

In the model, ethnicity affects persistence mainly through its influence on college grade point average, with the assumption that minorities have had a less than optimal educational experience at the secondary level. Lenning, Beal, and Sauer (1980) discovered that minorities drop out more frequently, but were unable to learn why. However, studies by Munro (1981), Pascarella and Terenzini (1980), and Terenzini, Lorang, and Pascarella (1981) show no significant relationship between students' ethnicity and persistence at residential, four-year institutions of higher education. Therefore, due to this ambivalence in the literature, there is a need for further research into the effect of ethnicity upon persistence of adult students (Metzner & Bean, 1987).

Gender

Few studies were found by Bean and Metzner (1985) that compared persistence patterns of male and female students. However, in studies conducted by Costa (1984); Getzlaf, Sedlacek, Kearney, and Blackwell (1984); and Stage (1989), gender was found to correlate with persistence, with females tending to persist more than males.

Summary of Background Characteristics

Verification of the accuracy of Bean and Metzner's (1985) model was conducted by Metzner and Bean (1987). Their findings indicated that the background characteristics had a much greater effect upon persistence outcomes for nontraditional age students than is usually the case with traditional age students (Metzner & Bean, 1987). Metzner and Bean suggested further study of adult persistence, segregated by student type.

Purpose of the Study

In order to persist to graduation at Iowa State University, Tinto's (1975) theory suggests that students must experience both academic integration and social integration. This study examines the degree of social integration older students experience at Iowa State University. Since the students had persisted nearly a year at Iowa State University, it was assumed that their interactions with peers, faculty, or advisors had caused them to be integrated socially at Iowa State University. Social integration was measured using three subscales from the Mattering Scale: peer interaction, faculty interaction, and advising. Thus, the question was asked

as to whether background characteristics influence the degree of social integration students experience.

CHAPTER III. METHODOLOGY

This chapter contains a description of the methodology used in the study. The following topics are addressed: purpose of the study, the Mattering Scale, instrument development, population, data collection, hypotheses of the study, and methods of statistical analysis.

Purpose of Study

The purpose of this study was to examine the social integration of older students using subscales of the Mattering Scale as a measure of social integration. Four demographic or background variables which have been found to be related to social integration (Bean & Metzner, 1985) were used in the study: age, enrollment status, gender, and marital status. The relationship between the students' scores on the mattering scale and each of the demographic variables was examined to determine if the students' background influenced their social integration.

Mattering Scale for Adult Students in Higher Education

Schlossberg, Lasselle, and Golec (1988) devised a scale to measure attitudes of adults moving through the collegiate environment. This scale is a measurement of the construct of mattering and indicates the extent to which students feel they matter to the institution. According to Schlossberg, Lynch, and Chickering (1989), mattering influences integration

into a learning environment, which in turn can influence persistence in that environment.

The Mattering Scale for Adult Students in Higher Education was developed with a grant from The Center for Educational Research and Development at the University of Maryland at College Park. The scale's purpose was to measure the construct of mattering (Allen & Wang, 1988). Or, as Schlossberg, Lynch, and Chickering (1989) ask: "Are the policies, practices, and classroom environment geared to making people feel they matter (p. 22)?"

The current version of the scale consists of 45 items comprising five subscales: administration, advising, faculty interaction, multiple roles, and peer interaction. According to Hertzog (1989), the scale was initially designed in 1985 using the information from interviews with 24 women and men ranging in ages from 16 to 80. After several changes in format, a 123-item version with a five-point Likert scale response was used in a national study involving over 500 adult student respondents in 1987. During the analysis of the 1987 survey data, ten items were deleted from the original scale, and revisions were made that resulted in an instrument of 113 items.

The revised version of the questionnaire was sent to 24 institutions of higher education in 1988. Despite the nonuniform sampling procedures across the institutions, responses were gathered from 566 students and analyzed. Discriminant analysis yielded an instrument of 70 items.

The 1988 revised version of the scale was sent to 23 institutions of higher education. Again, nonuniform sampling procedures were used across institutions. Five components were identified which measure

mattering: administration, advising, peer interaction, multiple roles, and faculty interactions. Using LISREL, the researchers removed items from the instrument that had reliabilities of less than 0.2 or loadings less than 0.35. "Finally, a model with 45 items was reached having a chi-square of 2015.25 with 935 degrees of freedom and a goodness of fit index of .83 (Hertzog, 1989, p. 5)." The five mattering factor subscales (faculty interaction, advising, peer interaction, administration, and multiple roles) had alpha coefficients of 0.82, 0.82, 0.86, 0.85, and 0.77, respectively.

The Mattering Scale assumes that those students who have experienced mattering will score higher than those students who have not experienced mattering. Since the focus of this thesis is the student and relationships as the unit of measurement, two mattering subscales dealing with environmental differences were not used: administration and multiple roles. The three mattering subscales retained for data analysis measure the interpersonal aspect of mattering: peer interaction, faculty interaction, advising (Schlossberg, Lasselle, & Golec, 1988).

Instrument Development

The survey instrument was developed jointly with the Office of the Vice President for Student Affairs as a means of understanding the concerns and needs of older students at Iowa State University. The survey contains 19 demographical questions, 55 questions that measure a variety of attitudes related to college, and one open-ended question about what improvements of services for older students are needed. The researcher

selected five demographic items and fifteen items measuring attitudes related to mattering from the survey for data analysis. The five demographic items include: age, gender, ethnicity, marital status, and enrollment status for Spring, 1990. The survey contained 28 of the 45 items from the Mattering Scale developed by Schlossberg, Lassalle, and Golec (1988). The fifteen mattering items selected for analysis came from three subscales in the Mattering Scale: peer interaction, faculty interaction, and advising.

Characteristics that are related to integration were identified for inclusion in the instrument. Student demographics included: age, gender (male or female), enrollment status (full-time or part-time), marital status (single, married, or separated), and ethnicity. These are the independent variables.

Since the unit of measurement used in the survey is the student and not the institution, three mattering factor subscales measuring interpersonal interactions from Schlossberg, Lassalle, and Golec's (1988) Mattering Scale For Adult Students in Higher Education were used as dependent variables. These dependent variables include: advising, peer interaction, and faculty interaction.

Population

The study followed Bean's (1986) recommendation that a homogeneous sample be selected from the total adult population. A meeting was held with the associate registrar (W. Dean Nelson) at Iowa

State University on April 30, 1990 to gain access to the survey population. The survey population was defined as all adult (age 25 or older) undergraduate students registered spring semester, 1990, who were first-time students at Iowa State University during Fall, 1989 and admitted to a degree program at Iowa State University. The entire population (N = 235) of students was selected using the computerized student information record system of Iowa State University's Office of the Registrar. Access to data for the following demographics was also given by the Office of the Registrar: mailing address, year in college, age, gender, marital status, transfer status, and enrollment status.

The survey was submitted to the Human Subjects Committee for approval. Approval was given after a modification to the survey cover letter was made.

Data Collection

Data were collected using a mailed questionnaire with a pre-paid return envelope. Research indicates that personalizing the survey materials generally increases the response rate (Hensley, 1974). Therefore, the survey recipient's name was printed on each survey and cover letter. Since the researcher had limited financing, nonprofit permits on the outer envelope and return envelope of the initial mailing were used. Rossman and Astin (1974) have indicated that the use of nonprofit permits on the outer envelope of the initial mailing combined with a follow-up mailing using first-

class postage yields response rates only two to three percent less than using first-class postage on the initial mailing.

Non-respondents were followed-up using a first-class second mailing containing a personal note written by the researcher on the cover letter. Research indicates that a single follow-up mailing can substantially increase the number of returned questionnaires, but that returns from additional follow-up mailings diminish significantly (Dillman, 1982). Thus, only one follow-up mailing was made.

After correcting for void or invalid returns, the original population size was adjusted downward to 234. The adjusted response was 140 students or a rate of 60%.

Hypotheses of the Study

As cited in the first chapter, the traditional age college-bound group is declining. Older students are increasingly important to Iowa State University. This study is examining the students' social integration as postulated by Tinto (1975). Social integration is measured using three subscales of the Mattering Scale (peer interaction, faculty interaction, and advising) in order to determine students' satisfaction with three groups of people in the University.

Five null hypotheses were tested in this study:

Null Hypothesis 1

There will be no differences between men's and women's scores on the

three mattering subscales: peer interaction, faculty interaction, and advising.

Null Hypothesis 2

There will be no differences among students' of different age ranges scores on the three mattering subscales: peer interaction, faculty interaction, and advising.

Null Hypothesis 3

There will be no differences among students' scores, based upon the number of credit hours enrolled, on the three mattering subscales: peer interaction, faculty interaction, and advising.

Null Hypothesis 4

There will be no differences among students' scores, based upon marital status, on the three mattering subscales: peer interaction, faculty interaction, and advising.

Null Hypothesis 5

There will be no differences among students' scores, based upon ethnicity, on the three mattering subscales: peer interaction, faculty interaction, and advising.

Methods of Statistical Analysis

The SPSSx statistical package (SPSS Inc., 1988) was used to analyze the data. Data analyses were accomplished in a series of steps. First, frequency distributions for all variables were examined for missing data and coding errors. Next, frequency procedures for 20 variables produced the

descriptive statistics used in the first stage of the analysis to examine different types of students and situations.

Three demographic variables (age, enrollment status, and marital status) were then recoded as a result of the frequency distributions. Nine of the subscale items were also recoded, so that all subscale items indicated the same degree and direction of mattering. Finally, subscale totals of the items from peer interaction, faculty interaction, and advising subscales were calculated in order to convert the ordinal data from the Likert scale of Schlossberg, Lassalle, and Golec's (1988) Mattering Scale into interval data for one-way analysis of variance.

To test hypotheses #1 through #5, a One-Way Analysis of Variance (ANOVA) technique was employed. The ANOVA was run on the three subscales on the basis of the five demographic variables. When a significant difference was found, a Scheffé Test was run to determine which groups were different from each other.

CHAPTER IV. RESULTS AND FINDINGS

The purpose of this chapter is to report the results and findings of this study. The chapter is divided into the following topics: purpose of the study, descriptive statistics of respondents and subscales, and hypothesis testing.

Purpose of Study

The purpose of this study was to examine the social integration of older students using subscales of the Mattering Scale as a measure of social integration. Four demographic or background variables which have been found to be related to social integration (Bean & Metzner, 1985) were used in the study: age, enrollment status, gender, and marital status. The relationship between the students' scores on the mattering scale and each of the demographic variables was examined to determine if the students' background influenced their social integration.

Respondents' Profiles

In the Spring of 1990, there were 235 degree-seeking, adult undergraduate students, who were first-time students during Fall, 1989, enrolled at Iowa State University. All of the students who were enrolled, were included in the study. Sixty percent (140) of the students participated in the study by completing and returning the questionnaire. The profile of

the 140 survey respondents (see Appendix A) consisted of 19.3% freshmen, 21.4% sophomores, 40.7% juniors, and 18.6% seniors.

The mean age of a survey respondent on May 21, 1990 was 32.221, with a standard deviation of 6.825 years. The modal age was 25 years, while the median age was 30 years. Raw age data were recoded into categorical variables. Out of 140 respondents, 21.4% were between 25 and 26 years old, 24.3% were between 27 and 29 years old, 22.9% were between 30 and 34 years old, 17.1% were between 35 and 39 years old, and 14.3% were between 40 and 57 years old.

During Spring, 1990, the mean number of semester credits a survey respondent enrolled for was 11.186, with a standard deviation of 3.914 credits. The median and mode were 12 semester credits. Credits were recoded into either full-time enrollment (enrolled for 12 or more semester credits) or part-time enrollment (enrolled for 11 or fewer semester credits). Out of 140 respondents, 42.9% were part-time, while 57.1% were full-time.

Males accounted for 52.9% of the survey respondents, while females were 47.1% of the respondents. The students' marital status included single, married, and separated students. Out of 140 respondents, 29.3% were single, 51.4% were married, and 19.3% were separated.

Students who had begun their undergraduate studies at Iowa State University accounted for 11.4% of the total number of respondents. Therefore, the differences between transfer and native students were not examined because there was not enough variability for meaningful statistical analysis.

Whites represented 96.4% of the respondent total, while minority students comprised only 3.6% of the responding students. Thus, there was not enough variability among ethnic groups for meaningful statistical analysis. Hypothesis #5 was eliminated from further study.

Subscale Descriptive Statistics

Items from three of the five subscales in Schlossberg, Lassalle, and Golec's (1988) Mattering Scale were used when the survey instrument was developed. The three subscales from which items were selected are the three interpersonal components of mattering identified by the scale authors: faculty interaction, peer interaction, and advising (Schlossberg, Lassalle, & Golec, 1988).

Distribution of items on the Peer Interaction scale

In the 1988 version of the Mattering Scale, the Peer Interaction subscale had nine items. Five of the items were used in this study. Each item and its descriptive statistics are described here (see Appendix B, also). The five items selected from the Peer Interaction subscale were recoded, so that all responses indicating that mattering was experienced by the student were equal to "1" or "2."

The first question was "I get support from my classmates when I need it." Values ranged from one to five with a "1" denoting a "strongly agree" response indicating that mattering was experienced by the student. The mean on the first question was 2.593 with a standard deviation of 0.921, while the mode was 2.000. Of the subjects, 54.3% responded with "Agree"

or "Strongly Agree" to this item indicating they felt they mattered in this way.

The second question was "I sometimes feel alone and isolated at the university." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question two was 3.193 with a standard deviation of 1.099, while the mode was 4.000. Of the subjects, 30.7% responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

The third question was "I have not had adequate opportunities to get to know fellow students." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question three was 2.764 with a standard deviation of 1.090, while the mode was 2.000. Of the subjects, 50.7% responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

The fourth question was "Fellow students don't seem to listen to me when I share my life experiences." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question four was 2.386 with a standard deviation of 0.745, while the mode was 2.000. Sixty percent of the subjects responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

The fifth question was "The classroom atmosphere encourages me to speak out in class." Values ranged from one to five with a "1" denoting a

"strongly agree" response indicating that mattering was experienced by the student. The mean on question five was 2.864 with a standard deviation of 1.019, while the mode was 2.000. Of the subjects, 42.9% responded with "Agree" or "Strongly Agree" to this item indicating they felt they mattered in this way.

Once the data were recoded, Likert values for each of the five items were added to calculate the Peer Interaction subscale score for each student. The subscale had a minimum value of five and a maximum value of 25; the actual range of scores was a minimum value of seven and a maximum value of 23. The subscale had a mean of 13.800 with a standard deviation of 3.285, while the mode was 13.000. Of the respondents, 37.1% had a Peer Interaction score between five and twelve; thus, the majority of their responses on the five items from this subscale indicated that mattering was experienced by the student.

Distribution of items on the Advising Scale

In the 1988 version of the Mattering Scale, the Advising subscale had eight items. Five of the items were used in this study. Each item and its descriptive statistics are described here. The five items selected from the Advising subscale were recoded, so that all responses indicating that mattering was experienced by the student were equal to "1" or "2."

The first question was "My advisor has office hours at times that I am on campus." Values ranged from one to five with a "1" denoting a "strongly agree" response indicating that mattering was experienced by the student. The mean on question one was 2.250 with a standard deviation of 0.882, while the mode was 2.000. Of the subjects, 71.4% responded with "Agree"

or "Strongly Agree" to this item indicating they felt they mattered in this way.

The second question was "The administrative rules and regulations are clear to me." Values ranged from one to five with a "1" denoting a "strongly agree" response indicating that mattering was experienced by the student. The mean on question two was 2.743 with a standard deviation of 0.999, while the mode was 2.000. Of the subjects, 50.7% responded with "Agree" or "Strongly Agree" to this item indicating they felt they mattered in this way.

The third question was "There has always been someone on campus who could help me when I had a question or problem." Values ranged from one to five with a "1" denoting a "strongly agree" response indicating that mattering was experienced by the student. The mean on question three was 2.764 with a standard deviation of 0.745, while the mode was 2.000. Forty-five percent of the subjects responded with "Agree" or "Strongly Agree" to this item indicating they felt they mattered in this way.

The fourth question was "My advisor doesn't seem to remember things we have discussed before." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question four was 2.600 with a standard deviation of 1.111, while the mode was 2.000. Of the subjects, 52.9% responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

The fifth question was "Administrative staff are helpful in answering my questions." Values ranged from one to five with a "1" denoting a

"strongly agree" response indicating that mattering was experienced by the student. The mean on question five was 2.314 with a standard deviation of 0.769, while the mode was 2.000. Of the subjects, 66.4% responded with "Agree" or "Strongly Agree" to this item indicating they felt they mattered in this way.

Once the data were recoded, Likert values for each of the five items were added to calculate the Advising subscale score for each student. The subscale had a minimum value of five and a maximum value of 25; the actual range of scores was a minimum value of five and a maximum value of 22. The subscale had a mean of 12.671 with a standard deviation of 2.786, while the mode was 12.000. Of the respondents, 51.4% had a Advising score between five and twelve; the majority of their responses on the five items from this subscale indicated that mattering was experienced by the student.

Distribution of items on the Faculty Interaction scale

In the 1988 version of the Mattering Scale, the Faculty Interaction subscale had eight items. Five of the items were used in this study. Each item and its descriptive statistics are described here. The five items selected from the Faculty Interaction scale were recoded, so that all responses indicating that mattering was experienced by the student were equal to "1" or "2."

The first question was "I sometimes feel that my professors want me to hurry up and finish speaking." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question one was

2.629 with a standard deviation of 0.834, while the mode was 2.000. Of the subjects, 49.3% responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

The second question was "My questions seem to put faculty members on the defensive." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question two was 2.600 with a standard deviation of 0.838, while the mode was 2.000. Of the subjects, 52.2% responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

The third question was "My professors sometimes ignore my comments or questions." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question three was 2.357 with a standard deviation of 0.796, while the mode was 2.000. Sixty-five percent of the subjects responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

The fourth question was "Sometimes I feel out of date in the classroom." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question four was 2.964 with standard deviation of 1.007, while the mode was 2.000. Of the subjects, 41.4% responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

The fifth question was "My professors interpret assertiveness as a challenge to their authority." Values ranged from one to five with a "5" denoting a "strongly disagree" response indicating that mattering was experienced by the student. After recoding, the mean on question five was 2.621 with a standard deviation of 0.835, while the mode was 2.000. Fifty percent of the subjects responded with "Disagree" or "Strongly Disagree" to this item indicating they felt they mattered in this way.

Once the data were recoded, Likert values for each of the five items were added to calculate the Faculty Interaction subscale score for each student. The subscale had a minimum value of five and a maximum value of 25; the actual range of scores was a minimum value of eight and a maximum value of 21. The subscale had a mean of 13.171 with a standard deviation of 3.051, while the mode was 11.000. Of the respondents, 47.9% had a Faculty Interaction score between five and twelve; the majority of their responses on the five items from this subscale indicated that mattering was experienced by the student.

Hypothesis Testing

Null hypothesis 1

There will be no differences between men's and women's scores on the three mattering subscales: peer interaction, faculty interaction, and advising.

The One-Way Analysis of Variance (ANOVA) statistical procedure was employed to test the null hypothesis (see Appendix C). The Peer Interaction

subscale had one degree of freedom, a F value of 4.3066, and a F probability of .0398. The Faculty Interaction subscale had one degree of freedom, a F value of 3.4490, and a F probability of .0654. The Advising subscale had one degree of freedom, a F value of 0.6671, and a F probability of .4155.

The analysis yielded there was a significant difference at the .05 level between men and women's scores on the Peer Interaction subscale. Hence, the researcher rejects the null form of the hypothesis. The alternate form of hypothesis one would be stated as follows: There is a significant difference between men's and women's scores on the Peer Interaction subscale. A Scheffé test revealed that women tended to experience mattering more than did men during peer interaction.

Null Hypothesis 2

There will be no differences among students' of different age ranges scores on the three mattering subscales: peer interaction, faculty interaction, and advising. Age was recoded into five intervals with a nearly equal distribution of respondents in each age interval.

The One-Way Analysis of Variance (ANOVA) statistical procedure was employed to test the null hypothesis. The Peer Interaction subscale had four degrees of freedom, a F value of 1.1760, and a F probability of .3242. The Faculty Interaction subscale had four degrees of freedom, a F value of .7093, and a F probability of .5870. The Advising subscale had four degrees of freedom, a F value of 1.5888, and a F probability of .1808.

The analysis yielded there were no significant differences among students' scores on the three mattering subscales. Therefore, the researcher fails to reject the null form of the hypothesis.

Null Hypothesis 3

There will be no differences among students' scores, based upon the number of credit hours enrolled, on the three mattering subscales: peer interaction, faculty interaction, and advising.

The One-Way Analysis of Variance (ANOVA) statistical procedure was employed to test the null hypothesis. The Peer Interaction subscale had one degree of freedom, a F value of .0107, and a F probability of .9176. The Faculty Interaction subscale had one degree of freedom, a F value of .5153, and a F probability of .4740. The Advising subscale had one degree of freedom, a F value of .9316, and a F probability of .3361.

The analysis yielded there were no significant differences among students' scores on the three mattering subscales. Therefore, the researcher fails to reject the null form of the hypothesis.

Null Hypothesis 4

There will be no differences among students' scores, based upon marital status, on the three mattering subscales: peer interaction, faculty interaction, and advising.

The One-Way Analysis of Variance (ANOVA) statistical procedure was employed to test the null hypothesis. The Peer Interaction subscale had two degrees of freedom, a F value of 2.0611, and a F probability of .1312. The Faculty Interaction subscale had two degrees of freedom, a F value of 2.0138, and a F probability of .1374. The Advising subscale had two degrees of freedom, a F value of 3.9919, and a F probability of .0207.

The analysis yielded there was a significant difference at the .05 level among students of different marital status on the mattering subscale,

Advising. Hence, the researcher rejects the null form of the hypothesis. The alternate form of hypothesis four would be stated as follows: There is a significant difference among students' scores, based upon marital status, on the Advising subscale. A Scheffé test revealed a statistically significant difference between married and single students; single students tended to experience mattering more than did married students during interactions with advisors.

Summary

During the testing of four hypotheses, twelve one-way analyses of variance were performed. Two statistically significant differences resulted from these analyses: on the Peer Interaction subscale, gender was found to influence mattering; on the Advising subscale, marital status was found to influence mattering.

CHAPTER V. DISCUSSION AND RECOMMENDATIONS

The purpose of this chapter is to summarize the findings, present conclusions, and list recommendations for further research based upon the procedures and analyses performed in this study. The following topics were addressed: purpose of study, procedure of study, major findings and conclusions, and recommendations.

Purpose of Study

The purpose of this study was to examine the social integration of older students using subscales of the Mattering Scale as a measure of social integration. Four demographic or background variables which have been found to be related to social integration (Bean & Metzner, 1985) were used in the study: age, enrollment status, gender, and marital status. The relationship between the students' scores on the subscales of the Mattering Scale and each of the demographic variables was examined to determine if the students' background influenced their social integration.

Procedure of Study

Data for the analysis were collected during the spring semester of 1990 from a population of students drawn from the Registrar's record of degree-seeking, nontraditional age undergraduates, who were first-time students at Iowa State University during Fall, 1989. A questionnaire with a

prepaid return envelope was sent to each student in the population (N = 235). Nonrespondents were sent one follow-up mailing. One hundred forty students participated in the study.

Background demographics of older students at Iowa State University were the independent variables in the study. Scores on three mattering subscales, Peer Interaction, Advising, and Faculty Interaction, were the dependent variables analyzed in the study.

Students completed a 74 question survey; 20 items were used in this study. Students reported their age, gender, ethnicity, marital status, and enrollment status. The same information was gathered from university records as a check for data coding errors. They also responded to 15 items from the Mattering Scale. Descriptive statistics were calculated for each variable, then one-way analyses of variance were calculated to compare groups.

Based upon the theoretical model, it was hypothesized that Mattering happens differentially based upon background characteristics of older students. According to Schlossberg, Lassalle, and Golec (1988), Mattering defines ways of engagement in a campus environment. With ownership of some aspect of the learning environment, the student will continue to be engaged in that particular environment (Schlossberg, Lynch, & Chickering, 1989).

Major Findings and Conclusions

Results of this study indicate that men and women differ significantly

in mattering scores on the Peer Interaction subscale, and that women's scores were higher than men's. Furthermore, it was revealed that women tended to experience mattering more than did men during peer interaction. This finding is consistent with the research literature (Getzlaf, Sedlacek, Kearney, & Blackwell, 1984; Gilligan, 1982; Stage, 1989), which states that men value personal achievements over interpersonal relationships, while women value interpersonal relationships over personal achievements.

Analysis revealed that single students had statistically significant lower scores than married students on the Advising subscale. There is no research literature to support this finding. One explanation may be that single students do not experience the extra demands and supports of family life as do married students, therefore single students tend toward greater social integration in the campus environment.

Another finding of this study was the extent to which students' responses to the items indicated they had experienced mattering. Only about half of the survey respondents responded that they had experienced mattering in the campus environment during their interactions with faculty, staff, and peers as measured by the fifteen items. Several possible explanations exist for this finding. Previous studies tend to show mixed results due to the many variables involved in older student research (Bean & Metzner, 1985). Another reason for the lack of mattering experienced by the student respondents could be the usage of only a portion of the full Mattering Scale by the researcher. Third, the duration of time needed for mattering to occur may differ with different types of older students. Finally, it is possible that Iowa State University does not create an environment

where students matter enough for distinctions to show. Or, if the environment is supportive, students do not perceive that they matter.

Recommendations

Studies show that adults are capable, motivated learners (Cagiano, Geisler, & Wilcox, 1977; Mishler, Frederick, Hogan, & Woody, 1982), who are important consumers of higher education (Aslanian & Brickell, 1980; Aslanian & Brickell, 1988). Discenza, Ferguson, and Wisner (1986) stated: "Institutions should not be scrambling for new customers if they cannot adequately service those who are currently enrolled (p. 4)." According to Discenza, Ferguson, and Wisner (1986), colleges do not exist to retain students, but to provide programs and services to support student needs. The by-product of academically benefited student populations is acceptable retention rates. Only when institutions of higher education understand the reasons for older student persistence will they be able to assert some control over their student enrollments.

According to Tinto (1975), compensatory effects exist between academic and social integration. If social integration is low, but academic integration is high, the student will tend to have sufficient goal commitment to persist at an institution even though mattering does not exist sufficiently to affect persistence. Thus, studies which measure academic integration in addition to social integration may help to more fully understand the phenomenon of older student persistence.

Hertzog (1989) indicated the need for further validation studies of the 1988 version of the Mattering Scale due to the nonuniform sampling procedures used to define its present item configuration. It is possible that the instrument does not measure mattering with a high degree of accuracy. Therefore, it is recommended that further analysis be performed on the instrument using uniform sampling procedures.

Schlossberg, Lynch, and Chickering (1989) identify three stages, "moving in," "moving through," and "moving on," in the older student's transition in an institution. When the student enters the "moving through" stage, he or she is demonstrating institutional commitment as postulated by Tinto (1987). However, the literature does not define the duration of the "moving in" stage. It may be that a student remains in the "moving in" stage during his or her first twelve months at an institution. If that is true in this study, the data were collected too early in the older student's transition. The degree of mattering a student needs to experience in order to make the commitment from "moving in" to "moving through" an institution is not known. Conducting a longitudinal study where data are collected at regular intervals throughout students' enrollment would provide insight into the relationship between the "moving in," "moving through," and "moving on" stages and mattering.

Conclusion

The phenomenon of adult student persistence is complex. This study found some support for differences in Mattering subscale scores based on

demographic characteristics. Additional studies to improve the reliability and validity of the Mattering Scale are needed. Furthermore, studies of adult student persistence using Tinto's model need to include measures of both social integration and academic integration with an emphasis upon analysis of environmental variables such as finances, hours of employment, outside encouragement, family responsibility, and opportunity to transfer. Data from these studies need to be collected for at least two years. Then we will have a more complete understanding of the phenomenon of adult student persistence.

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APPENDIX A. RESPONDENT PROFILE

Table 1. Grade level in college

Year in college	Frequency	Percentage
Freshman	27	19.3%
Sophomore	30	21.4%
Junior	57	40.7%
Senior	26	18.6%

Table 2. Age in May 1990

Interval	Frequency	Percentage
25 - 26	30	21.4%
27 - 29	34	24.3%
30 - 34	32	22.9%
35 - 39	24	17.1%
40 - 57	20	14.3%

Table 3. Second semester enrollment credits

Interval	Frequency	Percentage
2 - 11	60	42.9%
12 - 19	80	57.1%

Table 4. Gender

Label	Frequency	Percentage
Male	74	52.9%
Female	66	47.1%

Table 5. Ethnicity

Label	Frequency	Percentage
White	135	96.4%
Oriental	3	2.1%
Black	2	1.4%

Table 6. Marital status

Label	Frequency	Percentage
Single	41	29.3%
Married	72	51.4%
Separated	27	19.3%

Table 7. Student transfers

Label	Frequency	Percentage
Native	16	11.4%
Transfer	124	88.6%

APPENDIX B. SCALE DESCRIPTIVE STATISTICS

Table 1. Peer interaction

Item	Mean	Std Dev	Mode	% Matter
Support from classmates	2.593	0.921	2.000	54.3%
Feel alone and isolated	3.193	1.099	4.000	30.7%
No opportunity to know students	2.764	1.090	2.000	50.7%
Students don't seem to listen	2.386	0.745	2.000	60.0%
Classroom encourages to speak	2.864	1.019	2.000	42.9%
Peer interaction scale total	13.800	3.285	13.000	37.1%

Table 2. Faculty interaction

Item	Mean	Std Dev	Mode	% Matter
Professors want me to hurry	2.629	0.834	2.000	49.3%
Questions put faculty on defensive	2.600	0.838	2.000	52.2%
Professors ignore comments	2.357	0.796	2.000	65.0%
Feel out of date in classroom	2.964	1.007	2.000	41.4%
Professors interpret assertiveness	2.621	0.835	2.000	50.0%
Faculty interaction scale total	13.171	3.051	11.000	47.9%

Table 3. Advising

Item	Mean	Std Dev	Mode	% Matter
Office hours at times on campus	2.250	0.882	2.000	71.4%
Rules are clear to me	2.743	0.999	2.000	50.7%
Someone on campus to help me	2.764	0.745	2.000	45.0%
Advisor doesn't remember	2.600	1.111	2.000	52.9%
Staff helpful in answering Q's	2.314	0.769	2.000	66.4%
Advising scale total	12.671	2.786	12.000	51.4%

APPENDIX C. HYPOTHESIS TESTING

Table 1. One-way analysis of variance for gender

Variable	df	F	F prob	Scheffé
Peer Interaction	1	4.3066*	.0398	Women gt Men
Faculty Interaction	1	3.4490	.0654	NS
Advising	1	0.6671	.4155	NS

*Significant at .05 level.

Table 2. One-way analysis of variance for age

Variable	df	F	F prob	Scheffé
Peer Interaction	4	1.1760	.3242	NS
Faculty Interaction	4	0.7093	.5870	NS
Advising	4	1.5888	.1808	NS

Table 3. One-way analysis of variance for enrollment status

Variable	df	F	F prob	Scheffé
Peer Interaction	1	0.0107	.9176	NS
Faculty Interaction	1	0.5153	.4740	NS
Advising	1	0.9316	.3361	NS

Table 4. One-way analysis of variance for marital status

Variable	df	F	F prob	Scheffé
Peer Interaction	2	2.0611	.1312	NS
Faculty Interaction	2	2.0138	.1374	NS
Advising	2	3.9919*	.0207	Single gt Married

*Significant at .05 level.

APPENDIX D. HUMAN SUBJECTS APPROVAL

Last Name of Principal Investigator Mark Hoffmann

Checklist for Attachments and Time Schedule

The following are attached (please check):

12. ☒ Letter or written statement to subjects indicating clearly:
    a) purpose of the research
    b) the use of any identifier codes (names, #'s), how they will be used, and when they will be removed (see Item 17)
    c) an estimate of time needed for participation in the research and the place
    d) if applicable, location of the research activity
    e) how you will ensure confidentiality
    f) in a longitudinal study, note when and how you will contact subjects later
    g) participation is voluntary; nonparticipation will not affect evaluations of the subject

13. ☐ Consent form (if applicable)

14. ☐ Letter of approval for research from cooperating organizations or institutions (if applicable)

15. ☒ Data-gathering instruments

16. Anticipated dates for contact with subjects:

First Contact	Last Contact
April 30, 1990	May, 24, 1990
Month / Day / Year	Month / Day / Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio tapes will be erased:

May 25, 1990
Month / Day / Year

Executive Officer	Date	Department or Administrative Unit
	4-23-90	Professional Studies

19. Decision of the University Human Subjects Review Committee:

X Project Approved ___ Project Not Approved ___ No Action Required

Patricia M. Keith	4-27-90	
Name of Committee Chairperson	Date	Signature of Committee Chairperson

APPENDIX E. ADULT STUDENT OPINION SURVEY

Iowa State University of Science and Technology Ames, Iowa 50011-2020

Vice President for Student Affairs
311 Beardshear Hall
515-294-4420

Dear

The Office of the Vice President for Student Affairs is very interested in better meeting the needs of older students at Iowa State University. Consequently, we ask that you respond to the enclosed survey. With the information that you provide, we can better access those needs and obtain resources to meet them.

Your participation is voluntary. The size of the survey requires ten(10) minutes of your time to complete. Your responses will be kept confidential. If you choose not to participate, please return the survey unanswered in the enclosed postage-paid envelope, and your name will be removed from our follow-up mailings.

A graduate student, Mark Hoffmann, will be processing the data from the surveys. Portions of the data will be used by Mr. Hoffmann in his thesis on persistence patterns of adult undergraduate students. If you have any questions about the survey or would like a copy of the results of the survey, please call 515-294-4143. All survey identifiers will be removed on May 25, 1990, so please return the survey by May 21, 1990.

Iowa State is awakening to the concerns of older students, and your input is vital to the success of this survey. We thank you for taking the time to complete the survey! A special location has been created to receive your response. Please mail your completed survey form in the enclosed postage-paid envelope.

Sincerely yours,

Thomas [illegible]
Vice President for Student Affairs

Mark Hoffmann
Professional Studies in Higher Education

Instructions. For questions asking you to select an answer, please mark the blank (X) corresponding to your choice. All responses are kept confidential.

1. What is your age? _____

2. What is your gender? ___ Male ___ Female

3. What is your racial/ethnic background?

___ Afro-American/Black

___ American Indian or Alaskan Native

___ Caucasian-American/White

___ Mexican-American/Chicano

___ Asian American, Oriental or Pacific Islander

___ Puerto Rican, Cuban or other Hispanic American

___ Foreign national or other

4. What is your marital status?

___ Single
___ Married
___ Separated, divorced, widowed

5. How many dependents under 12 years of age do you have? ___

6. What is your college major? _____

7. How many credits were you enrolled for Fall 1990? ____

8. While school is in session, how many hours a week do you usually spend working a job? ____.

Were you employed Spring 1990? ___ YES ___ NO

9. When you are employed, is your work site on campus? ___ YES ___ NO

10. Have you ever taken courses at any higher education institution other than Iowa State? ____

YES ____ NO

11. While attending Iowa State, the amount of time you usually spend studying outside of class is

____ hours per week.

12. What is the highest academic degree you plan to obtain?

___ None
___ Associate degree
___ Bachelor's degree
___ Master's degree
___ Doctorate
___ Professional degree (M.D., etc.)

13. How long does it take you to travel one way to or from campus?

___ Less than 10 minutes
___ 10-20 minutes
___ 20-30 minutes
___ 30 minutes to 1 hour
___ More than one hour

14. What would be the best time for you to participate in or attend on-campus activities other than classes?

___8-10 AM ___10-Noon ___12-2 PM ___2-5 PM ___5-8 PM ___>8 PM

15 Was Iowa State your first choice at the time you applied for admission?

___ YES ___ NO

16. If your answer to question 15 was "no". what is the name of the college that was your first choice? _____

17. The types of financial support you are receiving during 1989-1990 were:

___ College Work Study
___ Scholarships
___ Grants
___ Student Loans
___ GI Bill
___ Human Services
___ Other _____

18. Your main education goal while at Iowa State is to (mark one):

___ Complete degree program
___ Prepare for entry level job
___ Advance in current job
___ Change to new occupation
___ Personal interest
___ Other _____

19. If you were to leave Iowa State before completing your degree program, what might your reasons be? (mark all that would contribute to your decision) Please rank your reasons in order of importance: 1 means greatest importance.

___ Achieved my academic goals
___ Transferred to another college: _____(name)
___ Needed a temporary break from college
___ Courses/programs I wanted were not available
___ Dissatisfied with my academic performance
___ Dissatisfied with the quality of teaching
___ Dissatisfied with the learning environment
___ Coursework not what I wanted
___ Unsure of my academic goals
___ Did not have money to continue
___ Could not obtain sufficient financial aid
___ Could not earn enough money while enrolled
___ Achieved my personal goals
___ Accepted a job
___ College experience not what I expected
___ Few people I could identify with
___ Moved out of area
___ Could not work and go to school at the same time
___ Other responsibilities became too great
___ Personal problems
___ Red tape
___ Rejected for internal transfer of major
___ Unsatisfactory child care options
___ Housing problems
___ Inadequate study skills/habits
___ Other _____

20. Please list or describe ideas you have about how the University could improve services for older students. You can continue your answer on the back of any sheet if you wish.

Instructions. This section measures a variety of attitudes related to college.

As you answer the questions, keep in mind that attitudes are hard to measure. Different individuals often interpret the meaning of a question differently, and a fleeting thought or feeling may influence how one responds.

For these reasons, a good questionnaire should contain a number of similar items about every topic covered. Each item reduces the chances of error. **So please be patient with the questions. Also, don't try to recall your previous responses–just answer each question as spontaneously and naturally as you can.** Keep in mind that there are no "right" or "wrong" answers. Simply give the answer that best fits you. Please darken the circle that corresponds to your opinion for each item.

	Strongly Agree (SA)	Agree (A)	Neither Agree/Disagree (N)	Disagree (D)	Strongly Disagree (SD)
1. I am dedicated to finishing college, no matter what the obstacles are.	1.				
2. Often I get so uptight about an exam that I can't concentrate on studying.	2.				
3. I expect to transfer to another school sometime before completing a degree at Iowa State.	3.				
4. I am generally aware of programs and activities that take place on campus.	4.				
5. I am able to balance academic and family demands.	5.				
6. My career goals are clear and explicit.	6.				
7. I spend as little time as possible on campus.	7.				
8. I get support from my classmates when I need it.	8.				
9. I feel that I can approach student services staff for help if I need it.	9.				
10. My advisor has office hours at times that I am on campus.	10.				
11. When I have difficulty with an assignment, I talk it over with my professor.	11.				
12. I complete my class assignments on time.	12.				
13. I sometimes feel alone and isolated at the university.	13.				
14. My family and friends support my decision to attend college.	14.				

om

15. I sometimes feel that my professors want me to hurry up and finish speaking. 15. SA A N D SD

16. I like to blend into the student population whenever I can. 16. SA A N D SD

17. The administrative rules and regulations are clear to me. 17. SA A N D SD

18. I feel out of touch with educational opportunities available at Iowa State. 18. SA A N D SD

19. The administration offices are open at times when Ineed them. 19. SA A N D SD

20. I seem to accomplish very little in relation to the amount of time I spend studying. 20. SA A N D SD

21. It has been difficult for me to meet and make friends with other students. 21. SA A N D SD

22. I have had the opportunity to talk to faculty outside of class. 22. SA A N D SD

23. My studying is very irregular and unpredictable. 23. SA A N D SD

24. There has always been someone on campus who could help me when I had a question or problem. 24. SA A N D SD

25. The terms *nontraditional* and *adult* make me uncomfortable. 25. SA A N D SD

26. I know where to go for help on campus. 26. SA A N D SD

27. I would leave college if I found a well-paying job. 27. SA A N D SD

28. I spend more time studying on campus than at home. 28. SA A N D SD

29. Fellow students don't seem to listen to me when I share my life experiences. 29. SA A N D SD

30. I have a member of the faculty as a mentor. 30. SA A N D SD

31. Counseling services on campus recognize my needs and concerns. 31. SA A N D SD

32. My advisor doesn't seem to remember things we have discussed before. 32. SA A N D SD

33. My questions seem to put faculty members on the defensive. 33. SA A N D SD

34. I am able to schedule classes at convenient times. 34. SA A N D SD

35. I believe that my decision to attend college was the right one. 35. SA A N D SD

36. Administrative staffare helpful in answering my questions. 36. SA A N D SD

37. I would like to take all the coursework for my degree in the evening. 37. SA A N D SD

38. I am having trouble adjusting to college life. 38. SA A N D SD

39. My professors sometimes ignore my comments or questions. 39. SA A N D SD

40. I get support from peer groups located on campus. 40. SA A N D SD

41. I am satisfied with my academic advisor. 41. SA A N D SD

42. The classroom atmosphere encourages me to speak out in class. 42. SA A N D SD

43. It is important that I graduate from college. 43. SA A N D SD

44. Departmental rules sometimes make my goals difficult. 44. SA A N D SD

45. Sometimes I feel out of date in the classroom. 45. SA A N D SD

46. University personnel care about individual student's concerns. 46. SA A N D SD

47. My professors interpret assertiveness as a challenge to their authority. 47. SA A N D SD

48. I am as happy at Iowa State as I would be at another college. 48. SA A N D SD

49. I am able to balance academic and work-related demands. 49. SA A N D SD

50. I dread the thought of going to college for several more years. 50. SA A N D SD

51. My professors are interesting and make the learning process enjoyable. 51. SA A N D SD

52. The benefits I receive from attending Iowa State outweigh the costs of attendance. 52. SA A N D SD

53. I believe that I am enrolled in the right curriculum. 53. SA A N D SD

54. I resent the amount of power that my professors have over me in my classes. 54. SA A N D SD

55. The faculty and staff are generally available and willing to talk to me about nonacademic subjects outside of class. 55. SA A N D SD