STRUCTURAL DIMENSIONS OF STUDENT

INVOLVEMENT AND THEIR RELATIONSHIP TO

STUDENT DEVELOPMENT

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And to God, from whom all good things come.

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Abstract:
Student involvement has been identified as a critical factor linked to multiple positive college outcomes. Multiple studies have been conducted in which various aspects of student involvement have been identified. The focus of this study was to investigate the structural dimensions of student involvement and the relationship of those dimensions to student development. Participants in this study included 292 students from a regional Midwestern university. Exploratory factor analysis, canonical correlation, and univariate multiple regression techniques were used to explore the research questions examined in this study.
Four structural dimensions of student involvement were identified. These were identified as (1) Faculty and Staff Involvement (FSI), (2) Proximity (PROX), (3) Structured Organization Involvement (SOI), and (4) Social Connections (SOC). Three of these, Faculty and Staff Involvement, Proximity, and Social Connections were found to be significantly related to measures of student development. Specifically, FSI, PROX, and SOC were found to be significantly related to developing and clarifying purpose; PROX and SOC were found to be related to developing autonomy; and PROX and SOC were found to be related to mature interpersonal relationships.

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INTRODUCTION

Introduction

Higher education in the United States has faced increasing challenges related to

accountability. "The demand for program evaluation information is growing. The U.S.

Congress, state legislatures, local legislative bodies, foundations, and other funding agencies

are increasingly demanding information on how program funds were used and what those

programs produced," (Blumenstyk, 2014[a], p. xxxvii). However, such demands, which can

often be tied to funding, do not appear to focus on measures of learning and personal growth,

but on measures which may be seen to be easier to calculate. "Typically, that has translated

into greater attention from lawmakers, policy advocates, and parents about student outcomes

like graduation rates, whether students are amassing excess credits before they graduate, and

what kind of job and salary they land after they graduate." (Blumenstyk[b], 2014, p. 109).

Increasingly, we have seen measures of the value of a college education reduced to these

outcomes, sometimes to the exclusion of other outcomes. Some state university systems, in

particular, have moved to funding for achievement in graduation rates, for example, rather

than other outcomes that have traditionally been tied to a university degree. "Some higher

education leaders complain that these accountability demands are often too simplistic and

one-dimensional, and they note that focusing too heavily on one measure could come at the

expense of another, particularly when a poor outcome could result in a cut in funding. . . A focus on improving graduation rates with a faster 'time-to-degree', for example, could lead to higher completion rates but might not necessarily guarantee that students will have mastered a rigorous curriculum." (Blumenstyk, 2014[b], pp. 110-11). Lagemann & Lewis (2012) have lamented the loss of some of the original purposes of higher education, noting, "Presidents and other top administrators are expected to be winners in a competitive, consumer driven higher education market rather than shepherds of character and ethical growth among students." (p. 10). However, with the costs of college continuing to increase, the decrease of public funding for higher education, and the push for on-demand education, the requirement for greater accountability is destined to continue.

If colleges and universities are going to continue to face increased scrutiny and accountability demands, it is worth considering the purpose of higher education. According to Schuh, Jones, Harper & Associates (2011), ". . the ideal of an intense undergraduate education by which young adults are prepared for leadership and service is a distinctively American tradition," (p. 4). But, what are the hallmarks of a college education? What outcomes do we hope to achieve through a college degree? Certainly, many look to the potential for increased employment opportunities that come with a college degree. According to Lagemann & Lewis (2012), ". . .in a society of divided opinion about the varied higher education landscape, the one thing on which everybody agrees is that college produces quantifiable benefits for individuals." They go on to state, "Yet higher education has vital public purpose beyond aggregated individual income benefits." (p. 9). While potentially more challenging to measure, learning and personal development outcomes have most certainly been considered desirable outcomes of a college degree. Lagemann & Lewis

(2012) refer to the words of John Adams in the Massachusetts Constitution affirming that school, and even higher education, were most certainly about personal development as well as useful skills. . . . " (p. 14).

According to Pascarella (1985), research on the impact of college on students can be found extending back to the 1930's. However, Pascarella (1985), refers to the work of Feldman (1969), as "a particularly noteworthy work, reviewing and synthesizing the results of over 1,500 studies" (p.2), and points out that, "the major focus of this literature has been on the ways in which college influences such factors as values, attitudes, personality orientation, political and racial views, educational and occupational aspirations, income, life goals, etc.," (p. 2).

Sanford researched personal development of college students in 1956 (Sanford, 1956). In the 1960s, Pace and others were investigating the influence of student subcultures (Pace, 1964; Pace & Baird, 1966). In 1969, Astin and Panos proposed the input-environment-output model to describe institutional characteristics (Astin & Panos, 1969). In 1969, Chickering proposed his theory of vectors of student development (Chickering, 1969). Since this time, several large scale studies have been conducted aimed at identifying the impact of college and the factors that lead to a variety of outcomes (Astin, 1977 & 1993; Pascarella & Terenzini, 2005).

The concept of student involvement is one of the most widely researched components of education that has been linked to positive educational outcomes in college students. Student involvement is most often thought about in terms of participation in extra or co-curricular activities. However, student involvement implies more than simple participation in a club or attendance at a campus athletic event, although these activities may, in part, describe an

'involved' student. In 1984, Alexander Astin described his Theory of Student Involvement, claiming "quite simply, student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1984, p. 297). However, before Astin described his theory of involvement, researchers had already studied the impact of student involvement on a variety of educational outcomes (Feldman, 1969). Student involvement has been linked to a range of desired outcomes, including student learning, academic achievement, student development, and increased satisfaction with the college experience. Given the vast array of research linking positive outcomes to student involvement, it would seem apparent that universities and other educational institutions would aim to promote greater student involvement.

Unfortunately, what seems like an obvious response has been complicated by the confusion surrounding the concept of student involvement, as well as other factors. The reality is that many programs that promote involvement can also be costly. When these programs cannot provide direct evidence of gains in what is too often used to measure the work of a university, such as retention, graduation rates, employability at completion, etc., then the programs may be cut, or even worse, eliminated.

Additionally, it is difficult to define what is meant by the term student involvement. Researchers have used a multitude of variables to measure student involvement. Different studies have linked various forms of involvement with an assortment of outcomes. To further complicate the issue, researchers and practitioners alike tend to use various terms, such as student involvement, student engagement and sometimes, student development, interchangeably when discussing student involvement, and can refer these concepts to both

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in-class and/or out-of-class experiences. It remains unclear what exactly is meant when we use the term student involvement, and how involvement can be measured.

Statement of the Problem

There is an accumulation of studies covering over 50 years of research which provides evidence that student involvement leads to increases in many desired college outcomes. While there are studies that link involvement to such outcomes as retention in college, the variety of conditions or characteristics that have been used to define involvement and methods used to measure it, has led to a lack of clarity on the features of successful student involvement programs. This is true not only in assessing the impact of student involvement on retention or graduation rates, but especially so in terms of developing programs that facilitate increased developmental outcomes. One of the assumed goals of a college education is the development of the individual attending college. Without looking at a more comprehensive and universal definition of involvement, the relationship between student involvement and student development remains unclear.

Purpose of the Study

From the sheer number of professional articles describing studies conducted to explore the impact of student involvement, it is clear that student involvement is associated with several positive outcomes. However, researchers have measured student involvement using an assortment of different indicators and have associated the various indicators with a range of outcomes. Additionally, the question of satisfaction with the level of involvement has not been factored into the student involvement research in a comprehensive manner. The

purpose of this study is to examine the structural dimensions of student involvement in relation to student development.

Definition of the Terms

- Student development:
  - "the ways that a student grows, progresses, or increases his or her developmental capacities as a result of enrollment in an institution of higher education," (Rodgers, 1990, p. 27)
- Student involvement:
  - Astin (1984), defines involvement as the amount of physical and psychological energy a student devotes to his/her academic experience. "A highly involved student is one who, for example, devotes considerable energy to studying, spends much time on campus, participates actively in student organizations, and interacts frequently with faculty members and other students." (Astin, 1984, p. 297).
- Student engagement:
  - According to Kuh, (2001), student engagement includes two elements. The first part involves the actions of the students, specifically the time and effort that a student gives to educational experiences, including studies and other activities, which lead to student success outcomes. The second part involves the allocation of resources on the part of the institution to encourage student participation in these activities.

Assumptions and Limitations

- It is assumed that archival records received from university system are accurate.

- It is assumed that students provided accurate responses to questionnaires.

- A limitation of the study is that the data was received from one sample of students from one university setting and therefore generalizability is unknown.

- A limitation of the study is that archival data rather than experimental data was used.

- A limitation of the study is that subjects from the archival sample were selected using a modified stratified random selection process, rather than a true random sampling, which could limit generalizability.

Significance of the Study

From its earliest institutions, the purpose of higher education was associated with the ability to think critically, integrate and apply knowledge from one area to another, to form an educated citizenship. According to Astin, "the quality of an institution's performance should be judged ultimately in terms of how effectively students were educated, "(Astin, 1996, p. 123). Research has established links of positive educational outcomes, including increased retention, with student involvement. It seems that a more comprehensive indicator of student involvement that could be easily delivered and measured would aid universities and students in assessing the level of involvement likely to lead to successful outcomes. More important, if it could be established that overall involvement is positively linked to developmental gains, this information could aid universities with developing and improving programs aimed not

only at increasing retention and graduation rates, but also in facilitating the growth and development of students.

This study attempted to confirm a comprehensive measure of student involvement and to relate student involvement to student development. The significance of this study is that it could help to provide support and guidance to universities, as they develop or enhance programs that improve student involvement across the university (or to aid individual students in evaluating their own involvement levels). In so doing, the research hopes to aid universities not as they explore means to not only increase student retention and graduation rates, but also of increasing personal growth and developmental gains of its students as a result of the college experience.

Research Questions

The research questions developed to guide this study were:

1. What are the structural dimensions of student involvement?
2. What are the relationships between student involvement dimensions and student development?

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Student involvement has been defined in many ways, and numerous models and theories have been proposed to explain the concept of student involvement. Similarly, there are an abundance of models/theories to describe student development, each focusing on various aspects of learning and development that occur within the general context of the college experience. More recently, the concept of student engagement has been introduced (Kuh, Schuh, Whitt, & Associates, 1991), with several studies discussing the value of student engagement and the practices associated with engaged students or colleges (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). Often, these terms, student involvement, student development, and student engagement, are used interchangeably, and frequently they are defined in different ways. The lack of consistency in definitions and indicators used to measure the concept of student involvement has made it difficult to develop a broad and comprehensive interpretation of the impact of involvement on a variety of educational outcomes.

Many of the theories of student development have provided insight into how students develop in college. Research has demonstrated a variety of positive outcomes

related to different aspects of the college environment and experience. In particular, student involvement, defined in multiple ways, has been demonstrated to be associated with many positive college outcomes. Theories and models have been developed to describe the aspects of the college environment or experience that lead to positive outcomes, or conversely, conditions that may lead to less desirable outcomes. Still, confusion remains evident in the various ways of describing or operationalizing student involvement, in the difficulty of distinguishing between various forms of environmental or experiential influences on student outcomes and in the need for a comprehensive exploration of the relationship between student involvement and student development outcomes.

Student Development Models/Theories

    Exploring student development. "Student development focuses upon the developmental tasks encountered by students in post-secondary education settings . . . " (ACPA, 1975). The term 'student development' is often used within the context of higher education, most frequently by student affairs professionals. It is assumed that everyone understands what is meant by this phrase. However, there is a lack of clarity regarding the concept. As King (1994/2005), explains, "the concept of student development is one of these really interesting concepts: it is complex and rich, has multiple meanings, is open to argument and disagreement, and connotes a variety of ideas and images to those who use (or avoid), the term" (p. 43). In brief, student development refers to the process of growth and change that occurs in college students, and student development theories

focus on those changes and the factors that contribute to these changes. Rodgers (1990),

described student development as "the ways that a student grows, progresses, or increases

his or her developmental capabilities as a result of enrollment in an institution of higher

education" (p. 27). "Development involves differentiation and integration as students

encounter increasing complexity in ideas, values, and other people and struggle to

reconcile these new positions with their own ideas, values, and beliefs," (Pascarella &

Terenzini, 2005, p. 21). According to Chickering & Reisser (1993), "development for

college students, which today includes persons of virtually all ages, is a process of

infinite complexity" (p. 34). Strange (1994), outlines a series of propositions regarding

student development. The first four propositions outline the ways in which students

differ: (1), age related developmental tasks, (2), how they construct and interpret their

experiences, (3), the styles with which they approach and resolve challenges of learning,

growth and development, (4), the resolution of tasks of individuation according to their

gender, culture-ethnicity, and sexual-orientation. Strange states that these differences are

important to understanding student behavior and structuring learning opportunities and

processes, and continues by identifying five propositions related to the nature of

development. Development occurs as individuals (5), reach points of readiness, (6),

respond to novel & challenging situations and tasks, and (7), recognize sufficient

challenge and support related to the task. Additionally, development (8), represents

qualitative and cyclical changes of increasing complexity, and (9), occurs as a result of

the interaction of the person and their environment. According to Winston & Anchors

(1993), ". . . student development emphasizes data-based theories that describe and

explain the development of young adults in five primary domains: intellectual, moral

development, psychosocial development, ego development, and career development, "(p. 28).

Kuh, Schuh, Whitt, and associates (1991), define personal development as, ". . . those attitudes, skills, and values that enable one to understand and reflect on one's thoughts and feelings; to recognize and appreciate the differences between oneself and others; to manage one's personal affairs successfully; to care for those less fortunate; to relate meaningfully to others through friendships, marriage, and civic and political entities; to determine personally and socially acceptable responses in various situations; and to be economically self-sufficient. These qualities are usually associated with satisfaction, physical and psychological well-being, and a balanced, productive life of work and leisure," (as cited in Hernandez, Hogan, Hathaway & Lovelle, 1999, pp. 185-186).

Pascarella and Terenzini (2005), outline several categories of theories of college student change (1), developmental theories including psychosocial, Chickering and the 'identity development' theories; (2), cognitive-structural, including Perry, King & Kitchener, Baxter-Magolda, Kohlberg, and Gilligan; (3), typological models, including Kolb Experiential Learning, Holland, and Myers-Briggs; and (4), person-environment interaction theories and models. The focus of this study will be to investigate student development as described by Chickering & Reisser (1993), although some additional theories are considered here.

Psychosocial theories/models. "Psychosocial development refers to the issues, tasks, and events that occur throughout the life span, and to a given person's pattern of

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resolution of the issues and tasks, and adaption to the events" (Rodgers, 1984). Psychosocial developmental theories arise from the earlier work of Erikson (1950), who suggested that human development proceeds through a serious of stages or developmental tasks. According to Rodgers (1990b), psychosocial theories subscribe to the idea that "human development continues throughout the life span and that a basic underlying psychosocial structure guides this development" (p. 122). A focus on the identity development of various diverse populations has led to a variety of identity development models which arise from the work of Erikson and are consistent with the psychosocial development model. Some of these include Cass' model of homosexual identity development (1979), Cross' model of African American identity development (1991), and Helms' model of white identity development (1993). However, one of the most significant psychosocial theories of development of students has been Chickering's vectors of development (1969), which is highlighted in the next section.

Chickering's Theory of Student Development. Perhaps the most widely recognized and researched theory of student development was introduced by Arthur Chickering (1969), which he subsequently modified (Chickering & Reisser, 1993), in order to reflect the development of a greater diversity of students. Pascarella and Terenzini (2005), state that "no psychosocial theorist has had more influence on the research on college student development or administrative efforts to promote it than Arthur Chickering" (p. 20). Chickering's theory of vector of development explains a process in which the individual progresses through a series of tasks in order to achieve further identity development.

Chickering (1969), based his initial theory on studies conducted at 13 small colleges. His work on identity development proceeded from the earlier work of Erikson

(1959), who Chickering & Reisser identify as the, "progenitor of the psychosocial models," (Chickering & Reisser, 1993, p. 21). "Since the stabilization of identity was the primary task for adolescents and young adults, it was a logical anchor point for Chickering's attempt to synthesize data about college student development into a general framework that could be used to guide educational practice," (p. 22).

Chickering described seven *vectors* of identity development. Chickering explained that he uses the concept of vectors, "because each seems to have direction and magnitude," (Chickering, 1969, p. 8), as opposed to proceeding in a more linear fashion. Movement along the vectors build on each other, and progresses to increasing complexity and integration, but is not necessarily sequential. Students move through the vectors at different rates, and sometimes revisit issues within individual vectors that were previously addressed. "Movement along any one can occur at different rates and can interact with movement along the others," (Chickering & Reisser, 1993, p. 34). Chickering referred to the vectors as, "major highways for journeying toward individuation . . . and also toward communion with other individuals and groups. . ." (Chickering & Reisser, 1993, p.35).

The seven vectors (adapted from Chickering & Reisser, 1993, pp 45 – 52), are summarized as:

1. Developing competence: Developing competence includes developing competency in three areas; intellectual competence, physical and manual competence and interpersonal competence. Developing intellectual competence includes skills development that enable the individual to comprehend, analyze,

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and synthesize, as well as lead to new frames of references that incorporate the individual's experiences and observations. Physical and manual competence can include athletic and artistic success and can lead to lifelong habits, which become part of identity. Interpersonal competence incorporates the development of a variety of skills that lead to an increased ability to help a relationship thrive or a group function. "Students' overall sense of competence increases as they learn to trust their abilities, receive accurate feedback from others, and integrate their skills into a stable self-assurance, "(p. 46).

2. Managing emotions: Managing emotions includes first learning to recognize and acknowledge emotions, then learning appropriate means of expressing or addressing them. "As self-control and self-expression come into balance, awareness and integration ideally support each other, " (p. 46).

3. Moving through autonomy toward interdependence: Moving through autonomy toward interdependence involves learning to act with self-sufficiency and personal responsibility while also recognizing and entering into healthier forms of interdependence. Emotional independence, demonstrating a decreased dependence on external supports in favor of personal interests or convictions, and instrumental independence, an ability to think critically about problems and to identify and move forward along a path to identified needs or desires, are key elements in movement toward interdependence. Developing autonomy involves redefining old relationships and developing a broader context. "The need to be independent and the longing for inclusions become better balanced.

Interdependence means respecting the autonomy of others and looking for ways to give and take with an ever-expanding circle of friends," (pp. 47-48).

4. Developing mature interpersonal relationships: Developing mature interpersonal relationships includes the tolerance and appreciation of differences, along with the capacity for intimacy. Tolerance involves seeing individuals for themselves rather than a stereotype, transferring the respect for friends to a respect for others who come from a different circumstance, and the ability to enjoy diversity. Developing mature interpersonal relationships also includes an increase in the ability to develop intimacy. "Developing mature relationships means not only freedom from narcissism, but also the ability to choose healthy relationships and make lasting commitments based on honesty, responsiveness, and unconditional regard," (p. 48).

5. Establishing identity: The establishment of identity is influenced by the development in the first four vectors. These four contribute to the development of a sense of self. Identity development involves comfort with body and appearance, comfort with gender and sexual orientation, sense of self in a social, historical and cultural context, clarification of self through roles and lifestyle, sense of self in response to feedback from valued others, self-acceptance and self-esteem, and personal stability and integration. "Development of identity is the process of discovering with what kinds of experiences, at what levels of intensity and frequency, we resonate in satisfying, in safe, or in self-destructive fashion," (p. 49). Establishing identity, "leads to clarity and stability and to a feeling of warmth for this core self as capable, familiar, and worthwhile," (p. 50).

6. Developing purpose: Developing purpose involves the integration of personal plans and priorities with vocational plans and aspirations, personal interests, and interpersonal and family commitments. Developing purpose, "involves a growing ability to unify one's many different goals within the scope of a larger, more meaningful purpose, and to exercise intentionality on a daily basis," (p. 50).

7. Developing integrity: Developing integrity flows from establishing identity and clarifying purpose. It involves three sequential and overlapping stages; (a), humanizing values involves movement away from uncompromising beliefs toward balancing one's self interest with those of one's fellow human beings, (b), personalizing values involves confirming core values and beliefs while also respecting those of others, and (c), developing congruence by matching personal behavior to values. As we develop along this vector, "our core values and beliefs provide the foundation for interpreting experience, guiding behavior, and maintain self-respect," (p. 51).

Cognitive-Structural theories. Cognitive-structural theories arise from the earlier work of Piaget (1952), and focus on the way people think rather than what they think (Evans, 1996). These theories seek to explore the way people develop cognitively. Development proceeds in sequential and ordered stages. Cognitive-structural theorists have focused on cognitive and moral development. Some of the theories that have been applied to student development include Perry's theory of cognitive development (1968), and Kohlberg's theory of moral development (1969).

Typology theories/models. Typology theories and models are not developmental, in terms of proceeding in stages or vectors, but describe individual differences. "These differences in turn influence development in other arenas" (Evans, Forney, & Guido-DiBrito, 1998, p. 11). Some typology models that have been applied to college students include Myers-Briggs personality type (Myers, 1980), Kolb's theory of learning style (1984), and Holland's theory of vocational interests (1985/1992).

Influencing student development

Person-environment interaction theories/models. Person-environment interaction theories in student development examine the interaction between the student and the college environment. Person-environment models provide a framework for ". . . designing environments that facilitate development, and instruments or other means for measuring development" (Rodgers, 1990a, p. 32). Originally introduced by Lewin (1936), the equation $B = f(P$ X $E)$, representing the concept that behavior (B), is a function (f), of the interaction (X), of the person (P), with their environment (E), "is the cornerstone on which our understanding of student development is based," (Evans, Forney, Guido-DiBrito, 1998, p. 24). The distinctive personal characteristics that each individual possesses are represented by the P in the formula, while the features of the environment in which the individual exists, works, studies, etc., are represented by the E in the equation. How each unique individual experiences the environment represents one of the most important aspects of the concept, the interaction (X), between the person and the environment. According to Evans, Forney & Guido, DiBrito (1998), "student

development theories help describe the 'person' aspect of Lewin's equation. . . However, we must not neglect the 'environment' side of the equation. . . " (p. 25). Campus ecology models integrate student development models with person-environment interaction models. Rodgers (1990), claims that "campus ecology [$B = f(P \ x \ E)$], … has become the most basic way of thinking about the work of student affairs, and theories of student development give the ecology model developmental substance, " (p. 28). Summarizing the interactionist paradigm, Strange and King (1990), state, ". . . the greatest opportunities for growth and development occur when students are 'matched' with appropriate environmental conditions" (p. 17).

Sanford's Person-Environment Theory. One of the foundation researchers who explored the impact of college on students was Nevitt Sanford (1962, 1966). According to Thelin (2003), Sanford's (1962), work was significant, and, "marked the emergence of higher education as an increasingly systematic field of study with implications for campus administrators and planners." (p. 16). Knefelkamp, Widick & Parker, 1978), claimed that Sanford was, "the theorist who has given us the most help in examining the relationship between student development and student services practice . . . " (p. ix). Sanford's theory described development as, "the organization of increasing complexity" (Sanford, 1967, p. 47). According to Sanford, the process of development included both the idea that development includes cycles of differentiation and integration and occurs when support and challenge are balanced (Sanford, 1962). Sanford also suggested that the student experiences both challenges and supports. To create a situation in which development occurs, the institution must, "present him with strong challenges, appraise

accurately his ability to cope with challenges, and offer him support when they become overwhelming" (Sanford, 1966, p.46). In a situation where the student faces overwhelming challenge with insufficient support, the student will withdraw and fail to develop. Similarly, if a situation offers little challenge and excess support, there will also be reduced or no development. In order to facilitate development, the institution must understand the student's ability, or readiness, and develop programs and environments that balance challenge and support.

Astin's I-E-O model. The earliest version of Astin's model to explain the effects of impact of college on students, Astin's input-environment-output model was a precursor to his widely known model of student involvement (Astin, 1993, p. 7). The basic idea of this model is that college impacts are based on three components. The personal pre-college characteristics that the student brings to the college are considered the *inputs*. Inputs include such characteristics as family background, academic experiences and social experiences. The collection of experiences that a student encounters while in the college comprise the *environment*. Environment would include people, programs, culture, attitudes, etc., which the student encounters on or off campus. The set of post college student characteristics, such as skills, knowledge, beliefs, attitudes and behavior that exist after college are considered the *outcomes*. Inputs impact outcomes in both a direct and indirect manner, by virtue of the way that input characteristics may shape how the student interacts with the environment.

Astin's Theory of Involvement. Alexander Astin's model of student involvement (Astin, 1984), is perhaps the most widely known and cited of the models of college impact. Astin developed his theory in order to organize the existing literature into what was an easy to understand model that explained much of the knowledge related to influences on student development. According to Astin, "student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience." (Astin, 1984, p. 297). A student who studies, interacts with faculty and other students, spends time on campus and participates in student organizations would be considered an involved student. The converse of this would describe a student who is not involved. However, Astin points out, ". . . not all passive students are uninvolved with their academic work, nor are they necessarily experiencing academic difficulties. But passivity is an important warning sign that may reflect a lack of involvement." (Astin, 1984, p. 305)

Astin's student involvement model is rooted in his earlier (Astin, 1975), longitudinal study of college dropouts, in which he concludes that "every positive factor was likely to increase student involvement in the undergraduate experience, whereas every negative factor was likely to reduce involvement," (Astin, 1984, p. 302). Astin likens involvement to the concept of motivation, but claims that involvement is more of a behavioral dimension, and is therefore subject to more direct observation and measurement.

Astin's involvement model has five basic postulates (Astin, 1984, p. 298).

1. Involvement refers to the investment of physical and psychological energy in various activities;

2. Involvement occurs along a continuum;

3. Involvement has both quantitative and a qualitative features;

4. The amount of student learning and personal development that occurs is directly proportional to the quality and quantity of student involvement;

5. The educational effectiveness of any policy or practice is related to its ability to generate student involvement.

Student involvement has been linked to an extensive array of college outcomes. Involvement "enhances almost all aspects of the undergraduate student's cognitive and affective development," (Astin, 1996). Astin also found that involvement contributed to student success, specifically, student retention, concluding that, " . . . the factors that contributed to the student's remaining in college suggested involvement, whereas those that contributed to the student's dropping out implied a lack of involvement" (Astin, 1984, p. 302).

Using data collected as part of the longitudinal studies conducted at the Higher Education Research Institute (HERI), Astin found the three most powerful forms of involvement appear to be academic involvement, involvement with faculty, and involvement with peers, with the influence of the peer group representing the strongest influence on cognitive and affective development. Researchers have used an increasingly vast set of indicators to define student involvement, and have used various combinations of these indicators to study its effects.

Tinto's Model of Student Departure. Tinto's model of Student Departure (Tinto,

1993), has often been considered when addressing issues of student involvement. Tinto's

model, which focuses on the integration of the student within the social system of the

institution, is not specifically a student involvement model, but looks more at the social

and intellectual integration of the student as it relates to student persistence or departure.

"Broadly understood, it argues that individual departure from institutions can be viewed

as arising out of a longitudinal process of interactions between the individual with given

attributes, skills, financial resources, prior educational experience, and dispositions

(intentions and commitments), and other members of the academic and social systems of

the institution" (Tinto, 1993, p. 113). As individuals interact within the institution's

academic and social systems, their experience leads to differing levels of integration into

those systems, and may modify their intentions and commitments. Positive experiences

increase the level of integration. In so doing, they support persistence and increase

students' level of commitment and intentions to the goal of college completion and to the

institution. Negative experiences are seen to lead to the opposite outcome, and increase

the likelihood of departure from the institution. "Interactive experiences which further

one's social and intellectual integration are seen to enhance the likelihood that the

individual will persist within the institution until degree completion, because of the

impact integrative experiences have upon the continued reformation of individual goals

and commitments. Positive integration serves to raise one's goals and strengthens one's

commitments both to those goals and to the institution within which they may be

attained. Conversely, the model posits that, other things being equal, the lower the degree

of one's social and intellectual integration into the academic and social communities of the college, the greater the likelihood of departure." (Tinto, 1993, p.116)

Tinto notes that the aim of the model is to explain departure within an institution of higher education. It is not immediately concerned with whether the student transfers to another university, for example. Tinto further explains that the model looks at individuals who voluntarily withdraw from the institution, and dismissal for academic cause is not central to the model. It also is intended to be an explanatory model, rather than simply a descriptive one, ". . . the model seeks to explain the how interactions among different individuals within the academic and social systems of the institution and the communities which comprise them lead individuals of different characteristics to withdraw from that institution prior to degree completion," (Tinto, 1993, p. 113).

While Tinto's model is not specifically a student involvement model, there is considerable overlap in activities that lead to positive outcomes, and there is much to inform the discussion of student involvement in Tinto's model. There is a consistency of experiences that lead to greater student involvement that are also conducive to increased integration and persistence. Citing the work of Astin, (1993), Kuh, Kinzie, Buckley, Bridges, & Hayek, (2007), Pascarella & Terenzini, (1991; 2005), and Pace, (1984), Wolf-Wendel, Ward & Kinzie, (2009), concluded that research on college students shows that the time and energy students devote to educationally purposeful activities is the single best predictor of their learning and personal development.

Previous Studies

 General findings related to student involvement. Student involvement has been linked to student learning, (Pike, Kuh & Gonyea, 2003; Pike & Killian, 2001; Pike & Kuh, 2005), and to a variety of academic outcomes, such as advancing critical thinking skills (Flowers, 2004; Gellin, 2003), writing skills (Flowers, 2004), and cognitive skills, (Benjam & Hollings, 1995; Kuh, 1995). Student involvement has also been linked to personal development, (Flowers, 2004; Kuh & Gonyea, 2006; Ahlfeldt, Mehta & Sellnow, 2005; Hernandez, Hogan, Hathaway & Lovell, 2004; Cress, Astin, Zimmerman-Osster & Burkhardt, 2001; Moore, Lovell, McGann, & Wyrick, 1998; Cooper, Haley & Simpson, 1994; Baxter-Magolda, 1992), satisfaction, (Fischer, 2007; Sax, Bryant & Harper, 2005; Hoffman, 2002; Benjamin & Hollings, 1995), and civic responsibility, (Zuniga, Williams & Berger, 2005; Cress, Astin, Zimmerman-Osster & Bukhardt, 2001). Researchers have also examined the impact of student involvement on GPA, (Fischer, 2007; Hoffman, 2002), and retention (Fischer, 2007; Hoffman, 2002; Malincrodt & Sedlacek, 1979).

 Unfortunately, researchers have not used a consistent definition of student involvement, defining it using a variety of indicators. Researchers have defined student involvement in terms of participation in student organizations (Bohnert, Aikins, & Edidin, 2007; Fischer, 2007; Zuniga, Williams & Berger, 2005; Gellin, 2003; Hoffman, 2002; Pike & Killian, 2001; Hernandez, Hogan, Hathaway & Lovell, 1999; Milem & Berger, 1997; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996; Cooper, Healey & Simpson, 1994; Baxter-Magolda, 1992; Astin, 1984; Pascarella & Terenzini, 1979; Terenzini & Pascarella, 1978), place of residence, (Pike & Kuh, 2005; Zuniga, Williams

& Berger, 2005; Gellin, 2003; Hoffman, 2002; Hernandez, Hogan, Hathaway & Lovelle, 1999; Schroeder & Hurst, 1996; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996; Baxter-Magolda, 1992; Malinckrodt & Sedlacek, 1987; Astin, 1984), participation in athletics, (Ahlfeldt, Mehta, & Sellnow, 2005; Hernandez, Hogan, Hathaway & Lovelle, 1999; Anaya, 1996; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996; Astin, 1984), internships or employment, (Svanum & Bigatti, 2005; Zuniga, Williams & Berger, 2005; Gellin, 2003; Hernandez, Hogan, Hathaway & Lovelle, 1999; Kuh, 1995; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996; Baxter-Magolda, 1992), participation in a Greek-letter organization, (Zuniga, Williams & Berger, 2005; Gellin, 2003; Hernandez, Hogan, Hathaway & Lovelle, 1999; Pascarella, Edison, Nora, Hagedorn, & Terenzini, 1996), use of recreational facilities, (Flowers, 2004; Pike & Killian, 2001; Milem & Berger, 1997; Malinckrodt & Sedlacek, 1987), and use of other campus facilities, such as the library and on-campus dining facilities, (Malinckrodt & Sedlacek, 1987).

Impact of place of residence. Astin (1984), concluded that, "living in a campus residence was positively related to retention, and this positive effect occurred in all types of institutions and among all types of students regardless of sex, race, ability, or family background." (p. 302). Terenzini, Springer, Yaeger, Pascarella, & Nora, (1996), concluded that living on campus has positive effects on student development and learning. Hernandez, Hogan, Hathaway & Lovelle, (1999), found that living on campus was linked with larger gains in critical thinking skills and smaller gains in reading skills as compared to commuter students. Hoffman (2002), found that living on campus was the

strongest predictor of collegiate involvement, retention, and satisfaction. Gellin, (2003),

found that living on campus was positively linked to a gain in critical thinking compared

to students who did not live on campus. Zuniga, Williams & Berger, (2005), found that

participation in residence hall activities was connected with (promotes), inclusion and

social justice. Pike & Kuh, (2005), found that living on campus had a direct, positive

effect on learning and intellectual development, and that living on campus was also

positively linked to academic and social integration. Pascarella & Terenzini, (2005),

found that students who live on campus are more likely to persist to degree attainment

and report greater satisfaction with the college experience and greater growth and

development.

Participation in student organizations. Hernandez, Hogan, Hathaway & Lovell,

(1999), identify several studies showing that involvement in student organizations have

positive effects on student development and learning. Hoffman (2002), found a link

between involvement in activities and academic achievement for students of color, and

leadership involvement had a strong positive impact on satisfaction for these students.

Gellin (2003), conducted a meta-analysis of eight studies and concluded that involvement

in several areas, including student organizations, was linked to a gain in critical thinking

skills. Bohnert, Aikins & Edidin (2007), found that the intensity of involvement, which

was defined by the number of hours of involvement, was a significant predictor of social

adaptation in the transition to college, and that different types of involvement may

provide unique social benefits. Fischer (2007), found that formal involvement in

organizations and activities, and informal social ties, led to an increase in college

satisfaction and decreased departure. In the same study, Fisher (2007), found that for Black and Hispanic students, increased involvement in formal activities was also positively linked to increased academic success.

Participation in Greek life. Anaya (1996), found that high levels of involvement in student organizations (elected office, Greek organizations, volunteering), was negatively linked to GRE verbal and quantitative scores. Gellin (2003), found participation in Greek life, and other organizations, to be linked to gains in critical thinking skills. Hernandez, Hogan, Hathaway & Lovelle (1999), reviewed several studies and determined that the overall influence of membership in fraternities or sororities on the intellectual and cognitive development of students was negative, although they did not find a strong relationship. They further concluded that there was insufficient research on the long term effects on student development and learning.

Participation in athletics. Astin, (1984), found participation in intercollegiate athletics to be linked to smaller than average increases in several outcome areas, but it was also linked to an increased satisfaction in institution's academic reputation, the intellectual environment, student friendships and institutional administration. (p. 304). Pascarella, Truckenmiller, Nora, Terenzini, Edison, & Hagedorn (1999), found that intercollegiate male football and basketball players tended to have lower writing skills, critical thinking skills, and reading skills, than nonathletes and athletes in other sports. Hernandez, Hogan, Hathaway & Lovelle, (1999), reviewed several studies and found that

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the conclusions regarding the relationship between participation in intercollegiate athletics and student learning and development vary greatly. Different studies demonstrated different outcomes related to critical and analytical skills, reading comprehension, and mathematics. Some studies indicated a difference between outcomes associated with male and female athletic participation, while others indicated a difference between different sports. Hernandez, Hogan, Hathaway & Lovelle (1999), concluded that there was no clear consensus regarding the harm or benefit of participation in intercollegiate athletics and suggested the need for more studies.

Impact of faculty interaction. Tinto (1993), stressed the importance of faculty interaction in informal settings to student persistence and student intellectual development. Kuh, (1995), linked faculty contact with learning and personal development. Astin (1996), found involvement with faculty to be one of the three most potent forms of involvement. Terenzini and associates (1996), highlight the importance of faculty interactions with first generation college student success. Gellin (2003), linked faculty interaction with critical thinking. Sax, Bryant & Harper (2005), found differences between men and women in outcomes related to student-faculty interaction. Fischer (2007), found an increase in satisfaction linked with faculty interaction with Black and Hispanic students. Ullah & Wilson (2007), identified the importance of student-faculty relationships for student success. Pascarella and Terenzini (2005), found that, "the weight of evidence suggests that student-faculty interactions outside of the classroom that reinforce and extend the intellectual ethos of the classroom or formal academic experience, or that focus on issues of person growth, positively influence dimensions of

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general cognitive development such as post formal reasoning, analytic ability, and critical thinking skills." (p. 614).

Impact of the use of campus facilities. Malinckrodt & Sedlacek, (1987), found that students who used the library more were more likely to stay in school. Similarly, they also found that the use of the student union was related to retention. Not surprisingly, Flowers, (2004), found that the magnitude of positive effects of student involvement on academics was greater for library experiences than for experiences in the student union.

Summary.

College students grow and develop in a variety of ways. Many models/theories have been developed to explain how students grow and develop while in college. Similarly, multiple models/theories have been developed that explain the variety of ways that the student's environment may also influence growth, development and learning. Studies have been conducted to investigate the nature of student involvement and its connection to student growth and development, but there is no consistency in how student involvement is defined, nor in the indicators used to measure involvement.

Several models/theories of student development were reviewed. While many of these are seen to contribute to the understanding of students and how they grow or change in the college environment. Particular focus was paid to Chickering's (1969), theory of vector development. Various other examples of psychosocial theories, in

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addition to a brief introduction to, and examples of, Cognitive-Structural Theories and Typology models were also presented.

Various theories/models that explain the influence that college environments can have on student development was presented. An introduction to the general model of person-environment models was presented, as well as a discussion of Sanford's person-environment theory, Astin's I-E-O model, and Astin's (1984), theory of involvement. Many of these inform this study, but Astin's theory of student involvement was given particular attention.

Last, many examples of previous studies that have been conducted were reviewed. From the vast compilation of multiple studies, using various indicators of student involvement, that were positively linked to developmental or learning outcomes, it is clear that higher education administrators, and, in particular, those in Student Affairs, need to work to develop a more consistent and comprehensive "indicator" of student involvement. This "indicator," or measure of student involvement can then be used to develop a broad array of programs aimed at increasing positive outcomes associated with student involvement.

This study will attempt to look systematically at student involvement, using one measurement, the SII (D'Arcy & Dew, 2007; Dew, 2007), and to consider its relationship to student development outcomes, as measured by the SDTLA (Winston, Miller, and Cooper, 1999a/199b), which is based on the theoretical framework of Chickering (1969). In order to study these concepts and the relationship between them, following research questions will guide this investigation:

The research questions developed to guide this study are:

1. What are the structural dimensions of student involvement?

2. What are the relationships between student involvement dimensions and student development?

CHAPTER III

METHODOLOGY

Participants

The data that were used for this study were considered archival data and contained no personally identifying information. They were collected during a designated "Assessment Day" procedure at a Midwestern regional university. The sample participants included undergraduate students of all classifications. The sample was selected from a total student population of approximately 4,000 students. A modified process of stratified random selection was used to identify 120 students from each classification. After the initial 480 students were identified, students from the following categories were excluded: concurrently enrolled students, transfer students, students enrolled in fewer than 6 credit hours, students enrolled exclusively in night classes, students who attended any of the satellite campus locations, students who were enrolled in methods or students teaching classes, and any students who had been previously tested. Students from some of these groups were excluded due to scheduling convenience, as the assessment "testing' was held on one day (with one make-up date), during the daytime on the main campus of the university. Additionally, the focus of the assessment was on students who began their college career at this institution and who were enrolled as full

time students (although enrollment in more than 6 hours is considered sufficient to qualify for inclusion). This resulted in a sample group of 292 participants.

The majority of sample (78.4%), were traditional college age (25 years or fewer), but non-traditional students who were older than 25years, including a few students up to their 50s, were also included in the sample. The percentage of non-traditionally aged participants was substantially lower than the percentage that were traditionally aged (56.8% lower). The sample included 160 female students and 131 male students, with 1 student who did not identify gender. The sample included students from a variety of ethnicities, with a majority (58.9%), identifying as white/Caucasian, 27% identifying as American Indian/Alaskan Native, and fewer than 10% identifying as Native Hawaiian/Pacific Islander, Hispanic, Asian, and Black or African American. The sample included more sophomores (100), and seniors (101), than freshmen (40), or juniors (48), with one student whose classification was not reported. Participants lived in a variety of residential environments, with the largest percentage (30.8%), living off-campus and not with parents or a spouse, followed by 21.6% who reported living in on-campus residence halls, 18.8% who reported living at home with a parent, and 17.8% reporting living at home with a spouse or the equivalent. There were also a number (9), of individuals who inaccurately reported a campus housing situation that does not exist at the university, and 23 individuals who did not identify their living situation. The majority (80.8%), of participants were enrolled in 9-15 credit hours.

Design

This study was comprised of two parts. (1) An exploratory factor analysis using principle axis factor analysis was performed to determine if the organizational or structural dimensions of the Student Involvement Inventory (SII) items in this sample was consistent with the structure reported in a previous study (Dew, 2010). (2) A multiple correlation study was performed to evaluate the relationship between SII involvement scales and Student Developmental Task and Lifestyle Assessment (SDTLA), scale scores. All statistical analyses were conducted using SPSS.

Instruments

Student Involvement Instrument (SII)

Initial development of Student Involvement Instrument (SII). Originally created by the author and a colleague for a psychometrics class project, the SII was designed as a means of measuring the overall level of student involvement in out-of-class college experiences (D'Arcy & Dew, 2007). The original instrument consisted of 18 self-report items in addition to 10 demographic questions. The items were developed based on research linking various aspects of student involvement and student success (learning, development, retention, graduation, etc.), measures. The original items were evaluated by a panel of three Student Development/Student Personnel expert reviewers (see appendix A). Based on the construct under investigation (student involvement), feedback from the reviewers was used to modify the original items. A pilot study, using 5 student volunteers, was completed. No identifying information was maintained on the student volunteers. Feedback from this pilot group was used to re-word some of the items.

Additionally, two items were eliminated, as they were inconsistent in approach from the other items.

The SII instrument, was then administered to 200 freshmen students in College Success/Orientation classes at three area universities. After comprehensive analyses, conducted using SPSS, including evaluation of item deletion on Cronbach's coefficient alpha, corrected item-total correlations, assessment of inter-item covariance, principal component factor analysis with oblimin rotation, factor reliability analysis, a reliability analysis were run on the remaining 12 items with a resulting Cronbach's coefficient alpha of .72 as a measurement of internal consistency reliability. Composite scores were analyzed using simple descriptive statistics, and mean differences associated with demographic categories were noted. Face and content validity were established in the development of the instrument and validated by the panel of experts. The 12 items were examined under principal component factor analysis and yielded a Kaiser-Meyer-Olkin (KMO), Measure of Sampling Adequacy of .71 and Bartlett's Test of Sphericity was <.01, both indicating the appropriate use of factor analysis as a means of assessing the construct validity. A four factor organizational structure for the concept of Student Involvement emerged. Reliability analysis on the four components yielded a Cronbach's coefficient alpha of .79 for component one; Structured Campus Involvement (SCI), .58 for component two; Proximity to Campus (PROX), .54 for component three; Campus Resources an Facilities (CRF), and .62 for factor four; Social Connections (CON). Factor one's reliability could be improved by deletion of one item. No further deletions were indicated. Analyses of descriptive statistics demonstrated a normal distribution of

composite scores, with mean differences associated with demographic categories noted. It was concluded that that the instrument demonstrated appropriate psychometric properties.

Further development and use of the Student Involvement Instrument (SII). The second iteration of the SII was developed for further study (Appendix B). A comprehensive review of existing literature revealed an extensive number of characteristics or attributes that researchers used to operationalize the concept of student involvement. Items were developed to reflect the additional variables identified in the existing research. Items were then reviewed by a panel of experts and feedback was provided. Additional items were added by the researchers, based on professional experience. An additional refinement was to change the response options from a 5 to a 7 point Likert type format. The second iteration of the SII also included additional demographic items, items related to the use of various student and academic support service offices on campus, and items related to the student's satisfaction with the amount of involvement that they had in each area.

The revised SII was used in a study examining the structure of student involvement and its relationship with student academic success (Dew, 2010). Item analysis was conducted, resulting in reducing the original 122 items to 21 items. Consistent with the earlier findings (D'Arcy & Dew, 2007), the results indicated a four factor structure; Structured Campus Involvement, Campus Resources and Facilities, Proximity to Campus, and Social Connections. However, each of the factor scales were developed to reflect both the activity involvement and satisfaction with the level of involvement in the activity. Thus, there were actually eight resulting scales, which included both an activity scale and a satisfaction scale for each of the four factors. The

resulting coefficient alpha scores ranged from .64 for the Social Connections Activity
Scale to .93 for the Campus Resources and Facilities Satisfaction Scales (Dew, 2010, p.
44). Bartlett's Test of Sphericity indicated that the correlation matrix differed
significantly from an identity matrix, X^2 (210), = 2100.17 and $p<.001$. The KMO
Measure of Sampling Adequacy was found to be .81, which was seen to be acceptable for
proceeding with factor analysis.

The resulting factor solution was seen to give a more empirical structure to the
concept of student involvement, as it was more broadly defined by Astin (1984).
Noteworthy findings (Dew, 2010), included:

- "The number of activities and the amount of time spent in each had a significant relationship on students' cumulative grade point average" (p. 62).
- The "level of satisfaction with involvement had relationship with more areas of academic achievement, including the Collegiate Assessment of Academic Proficiency's (CAAP), Critical thinking, Essay 2 and Essay combined (scores), than the activity scales" (p. 62).
- A statistically significant difference was seen between freshmen and both juniors and seniors in their satisfaction with the use of Campus Resources and Facilities.
- The study found that both academic and social experiences were essential to student success.
- "Major findings suggest student involvement is related to academic achievement and more so when related to satisfaction. (p. 65).

- The "study found that faculty/student and staff/student relationships are important," (p. 65), in a manner that did not exclude seniors, but was more pronounced with freshmen.

The SII was seen as an appropriate instrument for the current study. Psychometric properties indicate both reliability and validity, and the factors were seen to provide a structure to the concept of student involvement. Other instruments were considered, including the College Student Experience Questionnaire, the National Survey of Student Engagement, and the Cooperative Institutional Research Program instruments, but these were all rejected. The research focus is limited to out-of-class indicators of student involvement. Additionally, the SII includes both the time devoted to various forms of involvement and the student's satisfaction with that level of involvement. Perhaps most important to any practical use of the instrument, the SII in its complete form takes the student approximately 20 minutes to complete. This was seen as a tremendous benefit for practical use in any future studies or as a means of evaluating student involvement in collegiate environments.

Student Developmental Task and Lifestyle Assessment (SDTLA). The Student Developmental Task and Lifestyle Assessment (SDTLA), developed by Winston, Miller & Cooper (1999a, 1999b), is a revision of their original instrument. The current instrument is a revision of an earlier instrument and was developed to address criticism of the older version, and to address revisions made to Chickering's (1969), theory of

psychosocial development (Chickering & Reisser, 1993). "It represents a sample of

behavior and reports on feelings and attitudes that are indicative of students who have

satisfactorily achieved certain developmental tasks common to young adult college

students between the ages of 17 and 25" (Winston, Miller, & Cooper, 1999b, p. 11). The

SDTLA is intended to be used "for developmental assessment of individuals or

programs" (Winston, Miller, & Cooper, 1999a, p. 11). The instrument consists of 153

items, which measure three basic developmental tasks (Establishing and Clarifying

Purpose, Developing Autonomy and Mature Interpersonal Relationships), and two scales

(Salubrious Lifestyle Scale and a Response Bias Scale). Reliability and validity for the

original instrument is well supported (Winston & Miller, 1987). Wachs (2002),

confirmed validity of the revised and current instrument. Two methods of reliability

estimate were used; test-retest and internal consistency. Pearson product-moment

correlations in the test-retest analysis approach .80 (with a low of .70 and highest of .89).

Researchers interpreted this to provide evidence of temporal stability. Tests of internal

consistency yielded Cronbach's coefficient alpha values of .88 to .62. The instrument has

been widely used in research, assessment and program evaluation, especially in areas of

co-curricular experiences. The SDTLA takes 25-30 minutes to complete

Procedures

Data that were used for this study were considered archival data. No personally

identifying information was included in the data, and the researcher was not able to

identify individual students included in the study. The data were collected as a part of a

spring assessment day (where two assessment days are held, one in the fall and one in the spring). Data were collected at a regional Midwestern university. In addition to the SII and SDTLA, students were also administered the CAAP (ACT, 2008), Critical thinking, Essay 2 or Reading test. The results of the CAAP test were not considered in this study. Students were selected for inclusion in assessment day using a stratified random sample, with equal numbers of each classification included in the original selection for participation in the assessment process. Students selected for participation were first contacted by Academic Affairs, then later received an email from the Vice President of Student Affairs. While some exemptions were permitted, as described earlier (see description of participants), participation in assessment day was considered mandatory.

Participating students arrived at one of three appointed times, each group was assigned a different CAAP test, but all three groups were given the SII and SDTLA. During the two hour testing segment, first the CAAP test was administered, followed by the SII and SDTLA. Both the SII and SDTLA were distributed as a paper booklet, with corresponding scantrons for item response. Students were also provided snacks and beverages between administration of the CAAP test and the other instruments.

Data analysis

Principle axis factor analysis was performed to determine if the organizational structure of the SII items in this sample was consistent with the structure reported in a previous study (Dew, 2010). Reliability analysis was conducted to examine each of the

resulting factors. Multiple correlation analyses was conducted using the SII factor scores

and SDTLA scales. All statistical procedures were conducted using SPSS.

CHAPTER IV

RESULTS

Introduction

The purpose of this study was to examine the structural dimensions of student

involvement and their relationships to student development. In order to assess student

involvement, a previously developed instrument, the Student Involvement Inventory

(D'Arcy & Dew, 2007; Dew, 2010), was utilized. This instrument was designed to assess

out of class student involvement.

The research questions developed to guide this study were:

1. What are the structural dimensions of student involvement?

2. What are the relationships between student involvement dimensions and

    student development?

Student Involvement Inventory

Psychometric properties. The 21 SII items identified in previous research (Dew,

2010), were analyzed to determine suitability for principle axis factor analysis. Bartlett's

Test of Sphericity indicated that the correlation matrix differed significantly from an

identity matrix, X^2 (210), = 2301.90 and p <.001. The KMO Measure of Sampling

Adequacy was .79. These results indicate the correlation matrix was suitable for factor

analyses.

Exploratory Factor Analysis. A principle axis factor analysis was conducted on the

correlation matrix. Direct oblimin rotation was used, based on prior empirical evidence

(Dew, 2010), and theoretical grounds that the factors were expected to correlate. The

scree plot (Figure 1), was examined and indicated with some ambiguity, a possible three,

four, or five factor solution, (Cattell, 1996). The initial design of the SII instrument

included four scales. Based on the theoretical framework, and previous findings (Dew,

2010), the four factor solution was selected for final analyses. Since it was anticipated

that the factors would be correlated, the four factors were rotated to final solution using

direct oblimin rotation with delta set at .0.

Figure 1

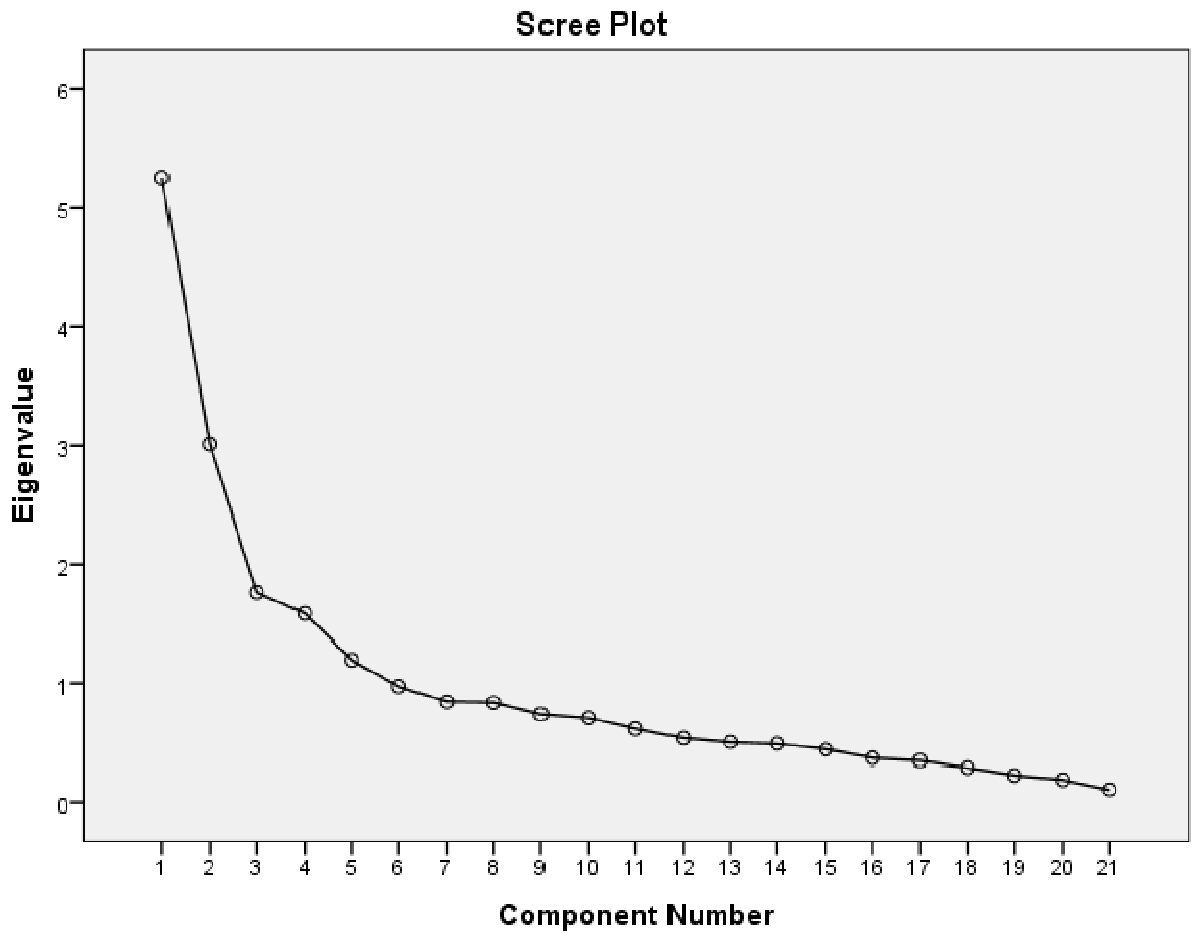*Figure 1. Scree Plot for 21-item Student Involvement Inventory*

The four factors that emerged were similar to those identified in previous studies (D'Arcy & Dew, 2007; Dew, 2010). However, based on the structure coefficient, two factors were slightly changed and renamed to more accurately describe the representative items, (Table 1). Additionally, there were three items that did not load on any of the

factors and three items cross loaded on more than one factor. The four factors were named and interpreted as follows:

1. Faculty and staff interaction (FSI), – represents out of class interactions between the student and various faculty and staff. (This factor is seen as similar to the Campus Resources and Facilities factor identified in the previous studies.)

2. Proximity (PROX), – indicates the proximity to class and campus resources from the student's place of residence.

3. Structured organization involvement (SOI), – indicates the student's participation in structured clubs and organizations. . (This factor is seen as similar to the Structured Campus Involvement identified in the previous studies.)

4. Social connections (SOC), – indicates the social connections that the student has made with other students, faculty and/or staff.

The intercorrelations of the four factors following oblimin rotation were examined (Table 2). Three of the correlations fell above .30, confirming the need for oblique rotation.

Table 1

Structure coefficients for Principle Axis Analysis with Oblimin Rotation

Item	Factor 1 (FSI),	Factor 2 (PROX)	Factor 3 (SOI)	Factor 4 (SOC)	h^2
participation in Greek organizations	.08	-.08	**.53**	.08	.30
participation in Academic clubs/orgs	.29	-.09	**.66**	.21	.44
participation with campus service or volunteering	.30	-.08	**.64**	.15	.42
participation with other student organizations	.37	-.10	**.47**	.34	.28
socializing with friends/ peers outside of class/clubs	.21	-.17	.26	.28	.13

Table 1 (Continued)

Item	Factor 1 (FSI),	Factor 2 (PROX)	Factor 3 (SOI)	Factor 4 (SOC)	h^2
visiting with faculty during office hours	**.67**	.08	.15	.35	.47
encountered faculty outside of class/ office	**.69**	-.02	.25	**.43**	.51
participated with other students and faculty in discussions outside of class	**.78**	.13	.31	.28	.62
participated with other students and staff in discussions	**.79**	.03	.30	.33	..62
discussed career plans/ambitions with staff	**.74**	.01	.34	.17	.57

Table 1 (Continued)

Item	Factor 1 (FSI),	Factor 2 (PROX)	Factor 3 (SOI)	Factor 4 (SOC)	h^2
discussed career plans/ambitions with faculty	**.74**	.03	.28	.22	.55
number of orgs. currently participating in	**.41**	.-.05	**.57**	.52	.47
number of leadership positions in clubs/orgs currently	.18	-.05	.39	.21	.16
times per week faculty, staff, administrator greets you by name	**.46**	-.05	.24	**.76**	.62
times per week peer acquaintance/not close friend greets you by name	.23	-.06	.23	**.72**	.53

Table 1 (Continued)

Item	Factor 1 (FSI),	Factor 2 (PROX)	Factor 3 (SOI)	Factor 4 (SOC)	h^2
times per week interact with peer of different racial/ethnic group	.21	-.18	.23	**.59**	.35
distance from campus to place of residence	-.02	**.67**	-.26	-.18	.47
hours per week worked on campus	.14	-.09	.30	.23	.11
average commute from home to class	.02	**.75**	-.18	-.10	.57
average commute from home to academic support services	.12	**.87**	.01	-.06	.78
average commute from home to student support services	.11	**.82**	.02	-.05	.69

Table 1 (Continued)

Item	Factor 1 (FSI),	Factor 2 (PROX)	Factor 3 (SOI)	Factor 4 (SOC)	h^2
Sum of Squared Loadings	4.15	2.57	2.70	2.70	
Percent of Variance	25.02	14.34	8.40	7.55	

Table 2

Factor Correlation Matrix

Factor	1	2	3	4
1. Faculty and Staff Involvement (FSI)	1.00			
2. Proximity (PROX)	.05	1.00		
3. Structured Organization Involvement (SOI)	**.36**	-.16	1.00	
4. Social Connections (SOC)	**.38**	-.15	**.32**	1.00

Student Involvement Inventory Factor Scores. Factor scores for each of the four

factors were calculated using the regression method, and saved for subsequent analyses.

Cronbach's alpha was calculated for the four factors and demonstrated alpha values

ranging from .74 to .85 (see Table 3).

Table 3

Factor Reliability

Factor	α
1. Faculty and Staff Involvement (FSI)	.84
2. Proximity (PROX)	.85
3. Structured Organization Involvement (SOI)	.78
4. Social Connections (SOC)	.74

Relationship of Student Involvement Factors to Student Development Measures

Canonical Correlation Analysis. To answer the general question regarding

whether there is a relationship between student involvement and student development, a

canonical correlation was performed. The first set of variables consisted of the 4 factors

identified from the SII. The second set of variables was comprised of the 3 SDTLA Task

scores (Establishing and Clarifying Purpose Task, Developing Autonomy Task and

Mature Interpersonal Relationships Task), and 1 SDTLA Scale score (Salubrious

Lifestyle Scale).

The dimension reduction analysis indicated that two of the four possible pairs of

canonical covariates reached statistical significance. The first pair of canonical covariates

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was found to be significant, [Wilks' $\lambda = .74$, F (16, 678.86), $= 4.35$, $p<.01$], as was the

second pair of covariates, [Wilks' $\lambda = .91$, F (9, 542.87), $= 2.30$, $p<.01$].

Univariate Multiple Regression Analyses. In order to further explore these

relationships, a series of univariate multiple regressions were performed. In these

analyses, the four SII factors served as predictor variables and the SDTLA Tasks and

Scale scores served as the criterion variables.

The linear combination of the four SII factors was significantly related to the

SDTLA score for the Developing and Clarifying Purpose Task, [F (4, 226), $= 12.19$, $p <$

.001]. The sample multiple correlation coefficient was .42 indicating that 18% of the

variance of the SDTLA Developing and Clarifying Purpose Task score can be accounted

for by a linear combination of the SII factors. Table 4 demonstrates the standardized

coefficients (β), significance, r^2, and squared semi partial correlation for each of the four

SII factors in relation to the SDTLA. Three of the four SII factors, FSI, PROX, and SOC

were found to be significantly related to this dimension.

Table 4

Standardized coefficients (β), significance, r^2 and squared semi partial correlation for each of the four SII factors in relation to the SDTLA Developing and Clarifying Purpose Task Score

SII Factor	β	*p*	r^2	squared semi-partial correlation
1. Faculty and Staff Involvement (FSI)	.17	.02*	.11	.02
2. Proximity (PROX)	.19	.00*	.02	.03
3. Structured Organization Involvement (SOI)	.07	.33	.05	.00
4. Social Connections (SOC)	.25	.00*	.10	.04

The linear combination of the four SII factors was significantly related to the SDTLA score for the Developing Autonomy Task, [F (4, 227), = 5.94, *p* < .001]. The sample multiple correlation coefficient was .31 indicating that 10% of the variance of the Developing Autonomy Task Score can be accounted for by the linear combination of the SII factors. Table 5 demonstrates the standardized coefficients (β), significance, r^2, and squared semi partial correlation for each of the four SII factors in relation to the SDTLA Developing Autonomy Task Score. Two of the four SII factors, PROX and SOC, were found to be significantly related to this dimension.

Table 5

Standardized coefficients (β), significance, r^2 and squared semi partial correlation for each of the four SII factors in relation to the SDTLA Developing Autonomy Task Score

SII Factor	β	*p*	r^2	squared semi-partial correlation
1. Faculty and Staff Involvement (FSI)	-.05	.51	.01	.00
2. Proximity (PROX)	.18	**.**01*	.01	.03
3. Structured Organization Involvement (SOI)	.04	.62	.01	.00
4. Social Connections (SOC)	.30	.00*	.07	.06

The linear combination of the four SII factors was significantly related to the SDTLA score for the Mature Interpersonal Relationship Task, [F (4, 229), = 5.49, *p* < .001]. The sample multiple correlation coefficient was .30 indicating that 9% of the variance of the Mature Interpersonal Relationships Task Score can be accounted for by the linear combination of the SII factors. Table 6 demonstrates the standardized coefficients (β), significance, r^2, and squared semi partial correlation for each of the four SII factors in relation to the SDTLA Mature Interpersonal Relationships Task Score. Two of the four SII factors, PROX and SOC were found to be significantly related to this dimension.

Table 6

Standardized coefficients (β), significance, r² and squared semi partial correlation for each of the four SII factors in relation to the SDTLA Mature Interpersonal Relationships Task Score

SII Factor	β	*p*	r^2	squared semi-partial correlation
1. Faculty and Staff Involvement (FSI)	.10	.20	.00	.00
2. Proximity (PROX)	.13	.05	.00	.01
3. Structured Organization Involvement (SOI)	-.04	.58	.00	.00
4. Social Connections (SOC)	.34	.00*	.06	.08

The linear combination of the four SII factors was not found to be significantly related to the SDTLA Salubrious Lifestyle Scale Score, [F (4, 230), = 1.12, *p* = .349]. This particular result was anticipated due to the different nature of the Salubrious Lifestyle Scale. The SDTLA Salubrious Lifestyle Scale is designed to assess behaviors associated with a healthy lifestyle, but it is not designed as a developmental task scale. Therefore, it, "may not be directly affected by participation in the higher education," (Miller & Cooper, 1999b, p.11). For this reason, it was anticipated that this scale might not demonstrate the same characteristics as the Task scores.

CHAPTER V

DISCUSSION

Review of the study

The purpose of this study was to examine the structural dimensions of student involvement and their relationship to student development. In the past, the concept of student involvement has been defined in various ways. For the purposes of this study, a previously developed instrument, the SII (Dew, 2010; D'Arcy & Dew, 2007) was used to assess out of class student involvement. Psychometric properties of the instrument were explored, and a principal axis factor analysis, using oblimin rotation, was conducted, resulting in a four factor solution. Results were similar to previous studies (Dew, 2010; D'Arcy & Dew, 2007). Canonical correlation analysis was used to investigate the relationship between student involvement and student development. A series of univariate multiple regressions were then performed to further explore the relationship between student involvement and student development. The data were used to respond to two research questions:

1. What are the structural dimensions of student involvement?

2.   What are the relationships between student involvement dimensions and

      student development?

A discussion of the results, including conclusions and recommendations are presented in

the following pages.

Research Question 1

Research Question 1: What are the structural dimensions of student involvement?

The question was explored using a previously developed instrument, the SII (D'Arcy &

Dew, 2007), to assess out of class student involvement. Psychometric properties of the

instrument were explored, and then a principal axis factor analysis, using oblimin

rotation, was conducted, resulting in a four factor solution. Results were found to be

similar to previous studies, (Dew, 2010; D'Arcy & Dew, 2007). The analyses of the

structural dimension of student involvement yielded four factors that were identified as:

1.   Faculty and staff interaction (FSI), represents out of class interactions between the

      student and various faculty and staff. Eight of the items loaded on this factor, with

      structure coefficient scores above .40. These included: participated with other

      students and staff in discussions (.79), participated with other students and faculty

      in discussions outside of class (.78), discussed career plans/ambitions with staff

      (.74), discussed career plans/ambitions with faculty (.74), and visiting with faculty

      during office hours (.67). Three items loaded on this factor, but also cross loaded

      on one (SOC) or two (SOC and SOI) other factors.

2. Proximity (PROX), indicates the proximity to class and campus resources from the student's place of residence. Four of the items loaded on this factor, with structure coefficient scores above .40. These included: average commute (time) from home to academic support services (.87), average commute (time) from home to student support services (.82), average commute (time) from home to class (.75), and distance from campus to place of residence (.67).

3. Structured organization involvement (SOI), indicates the student's participation in structured clubs and organizations. Five of the items loaded on this factor, with structure coefficient scores above .40. These included: participation in academic clubs or organizations (.66), participation with campus services or volunteering (.64), participation in Greek organizations (.53), and participation with other student organizations (.47). This factor also included one item that loaded above .40, but also cross loaded with two other factors (FSI and SOC). Additionally, one item addressing the number of leadership positions in clubs or organizations loaded at .39.

4. Social connections (SOC), represents the social connections that the student has made with other students, faculty and/or staff. Five of the items loaded on this factor, with structure coefficient scores above .40. These included: times per week that a peer acquaintance who is not a close friend greets you by name (.72) and times per week that you interact with a peer of a different racial/ethnic group (.59). Three items loaded with a score above .40, but cross loaded with one (FSI) or two (FSI and SOI) additional factors.

The intercorrelations of the four factors following oblimin rotation were examined (Table 2). Three of the correlations fell above .30, confirming the need for oblique rotation. Factor reliability scores (Table 3) ranged from .74 (SOC) to .85 (PROX).

These findings are consistent with those of previous studies of the SII, (Dew, 2010; D'Arcy & Dew, 2007). Results are also consistent with past studies that link involvement with personal development (Flowers, 2004; Kuh & Gonyea, 2006; Ahlfeldt, Mehta & Sellnow, 2005; Hernandez, Hogan, Hathaway & Lovell, 2004; Cress, Astin, Zimmerman-Osster & Burkhardt, 2001; Moore, Lovell, McGann, & Wyrick, 1998; Cooper, Haley & Simpson, 1994; Baxter-Magolda, 1992).

The resulting factor solution provides a structure to the concept of student involvement which is consistent with Astin's conceptualization (1984). Of note, the resulting factor structure supports the findings of Kuh (1995), who linked faculty contact with personal development, and Astin (1996), who found involvement with faculty and involvement with peers to be two of the most potent forms of involvement. It is also consistent with many previous studies linking place of residence with student learning and development (Hernandez, Hogan, Hathaway & Lovell, 1999; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996; Astin, 1984). Similarly, Tinto (1993) identified social integration to the university as one of the most important factors in improving student persistence.

The four factors that emerged are also conceptually easy to understand. The notions of faculty and staff interaction, proximity to campus, structured organization

involvement, and social connections, are easy to explain and discuss with students, and can easily be discussed in the context of overall program development and assessment.

Research Question 2

Research question 2: What are the relationships between student involvement dimensions and student development? To answer this research question, a canonical correlation was performed among the four factors identified from the SII and the three SDTLA task scores. Two of the four possible pairs of canonical covariates reached statistical significance. In order to further explore these relationships, a series of univariate multiple regressions were performed, with the four SII factors serving as predictor variables and the SDTLA tasks scores serving as the criterion variables. The SII factors for FSI, PROX & SOC were found to be significantly related to SDTLA Developing and Clarifying Purpose Task. The SII factors PROX and SOC were found to be significantly related to the SDTLA Developing Autonomy Task. The SII factors PROX and SOC were found to be significantly related to the SDTLA Mature Interpersonal Relationships Task.

The SDTLA Developing and Clarifying Purpose Task (PUR) is comprised of four subtasks: career planning, cultural participation, lifestyle planning, and education involvement. According to Winston, Miller, and Cooper (1999a), "students who have high achievement on this task (a) have well-defined and thoroughly explored educational goals and plans and are active, self-directed learners, (b) have synthesized knowledge about themselves and the world of work into appropriate career plans, both making

emotional commitment and taking steps now to allow realization of career goals; (c) have established a personal direction in their lives and made plans for their futures that take into account personal, ethical, and religious values, future family plans, and vocational and educational objectives; and (d) exhibit a wide range of cultural interests and active participation in both traditional and non-traditional cultural events." The SII factors of FSI, PROX and SOC were found to be significantly related to this developmental task.

The SDTLA Developing Autonomy Task (AUT) is comprised of four subtasks: emotional autonomy, interdependence, academic autonomy, and instrumental autonomy. According to Winston, Miller, and Cooper (1999a), "students who have high achievement on this task: (a) are able to meet their needs and act on their own ideas without the need for continuous reassurance from others; (b) can structure their lives and manipulate their environment in ways that allow them to satisfy daily needs and meet responsibilities without extensive direction or support from others; (c) structure their time and devise and execute effective study strategies to meet academic expectations without the need for direction from others; and (d) recognize the reciprocal nature of the relationship between the individual and his/her community and acts as a responsible, contributing member." The SII factors of PROX and SOC were found to be significantly related to this developmental task.

The SDTLA Mature Interpersonal Relationships Task (MIR) is comprised of two subtasks: peer relationships and tolerance. According to Winston, Miller, and Cooper (1999a), "higher achievers on this task: (a) have relationships with peer(s) that are open, honest, and trusting; their relationships reflect a balance between dependence and self-assured independence; and (b) show respect for and acceptance of those of different

backgrounds, beliefs, cultures, races, lifestyles and appearances." The SII factors of

PROX and SOC were found to be significantly related to this developmental task.

It was anticipated that the four SII factors would all be positively related to

developmental outcomes. Interestingly, the SII factor SOI was not found to be significant

for any of the SDTLA tasks. This was a surprising result, since Hernandez, Hogan,

Hathaway & Lovell, (1999) identified several studies showing that involvement in

student organizations have positive effects on student development and learning. This

result may indicate that the impact of involvement in student organizations may be

contained within other factors, such as SOC and FSI. Another possible explanation for

this finding may be that there is a distinct (separate from the other SII factors),

relationship between the SOI factor and one or more of the SDTLA subscales, that is lost

when considering the larger SDTLA tasks. Regardless, further research is needed to

investigate this result.

Implications

In working to develop a comprehensive indicator of student involvement, it was a

goal of this researcher to identify a simple means of assessing student involvement that

could be readily delivered and that would lend itself to assisting students and

administrators to work towards successful student outcomes. Further exploration of the

instrument is needed in order to determine its potential value in working with individual

students. However, given the conceptual simplicity of the factors, it appears that the

instrument could provide valuable in generating discussions with individual students

regarding their overall university involvement and how it may be related to their continued academic success.

Additionally, it appears that the instrument could also prove valuable as a component of an overall university assessment process designed to develop and improve programs and policies aimed at positive student outcomes. Astin (1984), suggested that the educational effectiveness of any policy or practice is related to its ability to generate student involvement. The SII is an easily administered instrument that offers a structure of student involvement that is conceptually simple to understand. It may provide a useful tool by which institutions can assess its programs related to their ability to generate student involvement.

In this study, proximity to campus, faculty and staff interactions with students, and social connections were shown to be significantly related to developmental outcomes. Programs and policies should pay particular attention to these areas of student involvement. Programs should be designed to increase faculty and staff interactions with students, both in and out of the classroom.

Proximity of the student's place of residence to classes and resources was also linked to developmental tasks. Policies that require students to live on campus may prove beneficial not just for increasing retention, but also to enhancing student development. Freshmen student retention rates are the lowest of all academic classes, (Upcraft, Gardner, Barefoot & Associates, 2005), and freshmen students potentially have the most to gain, in terms of development, since they are at the beginning of the college career. It seems particularly important for student involvement initiatives, such as an on campus

residency requirement, to focus on freshmen students, and for resources to be allocated that provide for increased faculty and staff involvements with freshmen students, as well as increasing social connections among freshmen students.

Programs and activities that are designed to increase social connections are often seen as 'fluff' by many administrators, educators, and other constituents. Those who see such programs as purely social and outside the scope of the formal educational program, are failing to see both the developmental implications, as well as the obvious potential for increasing student retention. Given the evidence that supports the importance of social integration into the university as a major factor in student development (Astin, 1993) and this study, as well as persistence (Tinto, 1993), it seems that universities would be well advised to place a priority on such programs, particularly for freshmen students. By prioritizing programs and policies that enhance student involvement, universities and students may benefit not only by increased graduation rates, but also enhanced learning and development, which is, after all, the fundamental mission of all universities.

Recommendations for Future Research

This study identified a four factor solution related to student involvement. Since the study was limited in scope and in selection process, it would be important to administer the SII instrument in a variety of settings, with different student groups, and different university settings, in order to assess if this structure holds for different students across different institutions. Differences between different subjects (such as academic classifications, age, gender, ethnicity, etc.) were not evaluated in this study. It might

useful to see if the various different demographic groups perform similarly across the different SII and SDTLA dimensions and if the same relationships are found between student involvement and student development for these various groups.

The SII factor for SOI was not found to be significantly related to any of the three SDTLA tasks. It would be interesting to further explore the SII factor of SOI to see if these findings remain consistent across different samples, university settings, etc., and if so, if this type of involvement is incorporated under the other SII factors, in particular the SOC and the FSI factors.

Further refinement of the SII instrument might increase its usefulness in working with both programs and individual students. Given the widespread use of various forms of social media, it would be interesting to explore how this form of involvement might be related to various outcomes, including student development. Additionally, further exploration of the role of students' satisfaction with their level of involvement could enhance our understanding of student involvement. Another area for additional study would be to explore whether the SII could be used in such a way as to identify an "optimal level of involvement" that is associated with positive outcomes, both developmental and academic, for any particular student.

It might prove informative to further explore the SDTLA subscales and their relationships with student involvement, specifically the SII factors. Further exploration of the SII factor for SOI might also be conducted to see if there are relationships with any of the SDTLA subscales that were hidden by using the more comprehensive SDTLA scales in this study. Further exploration of the SII involvement factors and SDTLA subscales

might identify whether particular forms of involvement promote development along different developmental dimensions, leading to more narrowly focused uses of the instrument.

Limitations

This study was limited by the sample selection. The participants in this study were limited to one sample taken from one public, regional, Midwestern four year institution. Participants were selected by means of stratified random selection which provided for exemptions for some subjects based on various conditions. This resulted in a sample that was unequally distributed among the four classifications. It cannot be assumed that the results would generalize across different samples taken from the same or different types of institutions, in different areas of the country, etc.

Additionally, the second part of the study, was a canonical correlation, and as such, demonstrates a relationship, but not causality. While the results indicate a significant relationship between student involvement and student development, further research in a variety of settings and using various methodologies might improve the understanding of this relationship.

Conclusions

"The overarching educational purpose of our colleges and universities should be to encourage and enable intentional developmental change in students," (Chickering &

Havighurst, as cited by Winston, Miller, & Cooper, 1999a). Studies have shown that there is value in student involvement as it relates to universities' goals of increasing persistence, retention, and graduation rates. Some of these goals have become so important that they sometimes appear to carry more importance than the overall mission of the institution. While graduation rates are critically important to the overall mission of the University, it is vital that educators not lose sight that the overall mission is the education and development of the students within its care.

This study reminds us that while student involvement certainly serves to support the goals of increasing retention and graduation rates, it also enhances the learning and development mission of the university. Given the multiple benefits associated with various aspects of student involvement, universities are urged to consider resource allocations that increase student involvement on campus as an investment in the overarching mission of the university, as well as the goals of increased retention and graduation rates. Programs and policies must be evaluated not simply in terms of whether they increase retention and graduation rates, but also whether they enhance the growth and development of students.

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Appendix A

Panel of Expert Reviewers

1. Marcia Dickman, Ph. D.
    Associate Professor
    College of Education
    Oklahoma State University
    Stillwater, Ok

2. Liz McCraw
    Dean of Students
    Southeastern Oklahoma State University
    Durant, Ok

3. Jarrod Noftsger
    Coordinator of Freshmen Student Success
    University of Central Oklahoma
    Edmond, Ok

Appendix B (Student Involvement Inventory)

VITA

Kelly D'Arcy

Candidate for the Degree of

Doctor of Philosophy

Thesis: STRUCTURAL DIMENSIONS OF STUDENT INVOLVEMENT AND TEHIR RELATIONSHIP WITH STUDENT DEVELOPMENT

Major Field: Educational Psychology

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in December, 2014.

Completed the requirements for the Master of Science in Counseling and Student Personnel at Oklahoma State University, Stillwater, Oklahoma, in 2001.

Completed the requirements for the Bachelor of Arts in Biology and Psychology, minor in Chemistry at State University of New York at Potsdam, Potsdam, New York in 1984.

Experience:
- Director of Residence Life   7/2002 - present
  Southeastern Oklahoma State University
  Durant, OK
- Residence Life Coordinator   1/1998 – 6/2002
  University of Central Oklahoma
  Edmond, OK
- Residential Manager &
  Fund Development Specialist   5/1992 – 10/1997
  Good Counsel, Inc.
  Spring Valley, NY

Professional Memberships:
- Association of College and University Housing Officers International
- American College Personnel Administrators
- Southwest Association of College and University Housing Officers
- National Association of Student Personnel Administrators