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Who flourishes in college? Using positive psychology and student involvement theory to explore mental health among traditionally aged undergraduates

Virginia Miller Ambler
College of William & Mary - School of Education

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Who Flourishes in College?
Using Positive Psychology and Student Involvement Theory
to Explore Mental Health Among Traditionally Aged Undergraduates

A Dissertation

Presented to

The Faculty of the School of Education

The College of William and Mary

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Philosophy

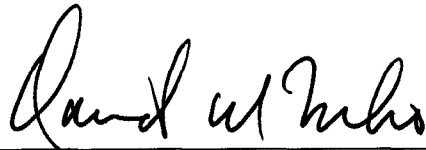
by
Virginia Miller Ambler
April 2006

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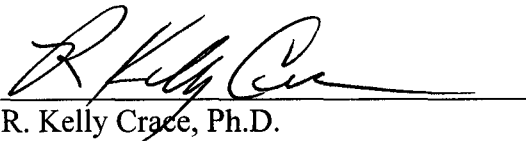
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David W. Leslie, Ed.D. (Chair)



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R. Kelly Crace, Ph.D.

*This work is dedicated with humble gratitude to
the truest lights and loves of my life – Richard, Brink, Alaina, and Mac Ambler
and to my devoted parents, Brink and Sandy Miller*

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WHO FLOURISHES IN COLLEGE? USING POSITIVE PSYCHOLOGY AND
STUDENT INVOLVEMENT THEORY TO EXPLORE MENTAL HEALTH
AMONG TRADITIONALLY AGED UNDERGRADUATES

ABSTRACT

The purpose of this study was to explore the relationship between undergraduate students' mental health and their engagement in the educational experience. The researcher identified traditionally-aged college students (18-23) who were *flourishing* and distinguished them from students who were *moderately mentally healthy* and/or *languishing* according to Keyes' (2002) continuum of mental health model. Mental health was the dependent variable. Student involvement was defined as the extent to which students engage in empirically derived good educational practices as measured by the National Survey of Student Engagement's *College Student Report* (2005). The five benchmark measures of student engagement were independent variables: (a) level of academic challenge, (b) student/faculty interactions, (c) active/collaborative learning, (d) enriching educational experiences, and (e) supportive campus environment. Analyses also considered students' academic achievement (GPA), gender, and parents' highest level of education (SES) as variables. Chi square analyses showed that mental health category was independent of gender and parents' highest level of education. ANOVA results also showed that student GPA also did not differ significantly by mental health category. However ANOVA results did show that mean scores for all five engagement variables did differ significantly by mental health category ($p < .001$) with *flourishing* students scoring highest and *languishing* students scoring lowest. A series of stepwise multiple regressions were conducted using mental health score as a continuous variable based on confirmatory factor analysis of Keyes' model. Results showed that "supportive campus environment" was the engagement variable most significantly predictive of mental health for both males and females.

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Who Flourishes in College?
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to Explore Mental Health Among Traditionally Aged Undergraduates

Chapter 1

Introduction

Psychological illness among college students is on the rise and represents a significant concern for today's college and university campuses. Certainly the popular press reflects a profound concern about the mental health of students (Crouse, 2003; Marano, 2002). Student affairs administrators, as well, have identified student mental health issues as being among the most critical challenges facing the contemporary college campus (Kadison & DiGeronimo, 2004; Snyder, 2004). Empirically, the results of a 13-year longitudinal study affirm that students today are presenting themselves to college counseling centers more frequently and with a greater complexity of problems than ever before (Benton, Robertson, Tseng, Newton, & Benton, 2003).

While the promotion of students' mental health and positive personal growth have long been significant priorities for higher education, practitioners and scholars alike have focused much attention on the incidence and nature of psychopathology among students, the strategies for managing the demand for counseling, treatment options for the mentally ill, and systematic approaches to preventing the most tragic of consequences (e.g., suicide, self-abuse, addiction). Current research on student mental health actually does little to shed light on those students who are mentally healthy, those who exhibit high levels of well-being and functioning and are flourishing on our campuses. This notable gap in our understanding of mental *health* on campus reflects what some have argued is a more pervasive void in the broader field of psychology.

According to former American Psychological Association (APA) President Martin Seligman, the building of human strength has been psychology's forgotten mission. Seligman (1998a) and kindred colleagues agreed that "since the end of World War II, psychology has moved too far

from its original roots, which were to make the lives of all people more fulfilling and productive, and too much toward the important, but not all important, area of curing mental illness” (¶ 3).

The emerging field of positive psychology attempts to complete the spectrum of inquiry, arguing that the study of mental *health* is distinct from and complementary to the well-established interest in mental illness (Keyes & Lopez, 2002).

One critical concept in positive psychology is what Keyes (2003) called *flourishing*, defined as “a state in which an individual feels positive emotion toward life and is functioning well psychologically and socially” (p. 294). To be flourishing is to be *mentally healthy*. Implied in Keyes’ definition is the assertion that one who is flourishing experiences both (a) emotional well-being and (b) successful functioning in “life domains” (p. 299), an example of which for individuals aged 18-23 might include the domain of higher education.

Positive psychology challenges scholars in a variety of disciplines and fields to begin to study that which makes life worthwhile (Keyes & Haidt, 2003) by understanding more about flourishing individuals — those who “far from being supermen and superwomen” are those among us who are truly living, who are “filled with emotional vitality, and . . . [who] are functioning positively in the private and social realms of their lives” (p. 6). For college faculty and staff who work daily with some of the most able, engaged young adults in the nation, the idea of learning more about “nurturing genius” (Seligman in Keyes & Haidt, 2003) is consistent with the highest of professional aspirations. Indeed, from the perspective of positive psychology, one of our tasks in higher education is to “nurture genius, to identify our most precious resource — talented young people — and find the conditions under which they will flourish”(p. xv).

Researchers in the field of higher education and student affairs have long been interested in understanding which specific factors of the collegiate experience contribute most to student learning and to personal development. Primary among these factors is the concept of involvement, which Astin (1984, 1985, 1993) defined quite succinctly as the amount of physical and psychological energy that the student devotes to the academic experience. Extensive research on college student development has affirmed that the time and energy students devote to educationally purposeful activities is, indeed, the best sole predictor of their learning and personal growth (Astin, 1993; Kuh, 2002; Pace, 1980; Pascarella & Terenzini, 1991, 2005). If, as the American College Personnel Association's *Principles of Good Practice* (1996) asserted, student affairs work is rooted in a conviction "that higher education has a duty to help students reach their full potential," then it is reasonable to explore the extent to which involvement promotes not only student learning and personal development, but optimal mental health as well.

Statement of the Problem

This study identified traditionally aged college students (18-23 years) who are *flourishing* and distinguished them from students who are moderately mentally healthy and/or languishing according to Keyes' (2002) operational definition of mental health – a "syndrome of symptoms of positive feelings and positive functioning in life" (p. 207). Using Keyes' research as a model, the study examined the prevalence of these three levels of mental health (i.e., flourishing, moderate mental health, and languishing) among traditionally aged college students at a mid-sized, selective, public university. In addition, it explored the extent to which individual involvement — as defined by Astin (1984, 1985, 1993) and as measured by the National Survey of Student Engagement — predicts mental health. Gender, race/ethnicity, parents' highest level

of education, and academic achievement were analyzed as additional independent variables.

The following are three specific research questions which this study addressed: (a) What are the characteristics of a sample of traditionally aged undergraduate students with regard to academic achievement, campus involvement, and mental health?; (b) To what extent is mental health category related to gender, parents' highest level of education, achievement, and involvement among traditionally aged undergraduates?; and (c) To what extent does student involvement predict the variability in mental health among traditionally aged undergraduates?

Statement of the Purpose

In 1994, the American College Personnel Association (ACPA) published *The Student Learning Imperative* as a call for student affairs professionals in higher education to intentionally create conditions on their campuses that enhance student learning and personal development. Although the terms *student learning* and *student development* refer to different aspects of the educational process, they are described in this watershed document as being “inextricably intertwined and inseparable” (p.1). King and Baxter-Magolda (1996) reflected this integrated view of learning and personal development in affirming that cognitive and affective dimensions are all parts of one process for students. The current study is an attempt to learn more about that affective dimension of the student experience by exploring mental health, as defined by Keyes' (2002) mental health continuum, and evaluating the extent to which engagement in the educational experience predicts variability in mental health. We know that involvement is the single best predictor of student learning and development (Astin, 1993; Kuh, 2002; Pace, 1980; Pascarella & Terenzini, 1991). Does involvement also predict mental health? If students who are most engaged in the education process are the same students who experience the greatest

learning and personal growth, might not one's level of involvement also be related to those variables which define mental health, many of which overlap with measures of student development — including positive affect, life satisfaction, self-acceptance, purpose in life, autonomy, positive relations with others, social contribution, and social integration (Chickering, 1969; Chickering & Reisser, 1993; Keyes, 2003)?

Recent studies have demonstrated that “certain institutional practices are known to lead to high levels of student involvement or engagement” (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). By beginning to explore the relationship between involvement and mental health, faculty and administrators in higher education might one day be in a better position to create campus environments which promote, not only optimal student learning, but optimal mental health as well.

Definition of Terms

The two most significant constructs in this study were (a) mental health and (b) student involvement. The following definitions are critical to understanding these constructs and how they were measured and interpreted in this study.

Mental Health

Mental health in this study was defined as a syndrome of symptoms of positive feelings and positive functioning in life (Keyes, 2002). Specifically, measures of mental health reflect an individual's subjective well-being, including (a) emotional well-being, (b) psychological well-being, and (c) social well-being. According to Keyes' definition (2002), mental health and mental illness empirically are not opposite ends of a single measurement continuum. In other words, mental health is not merely the absence of mental illness. “The mental health continuum

consists of complete and incomplete mental health. Adults with complete mental health are *flourishing* in life with high levels of subjective well-being . . . Adults with incomplete mental health are *languishing* in life with low well-being” (p.210). Thus, one who languishes may experience profound emptiness, stagnation, or quiet despair, but not necessarily exhibit symptoms of mental illness. Individuals who are *moderately mentally healthy* are neither flourishing, nor languishing in life.

Involvement

For this study, *student involvement* was defined as the extent to which students engage (contribute both time and energy) in empirically derived good educational practices, as measured by the *College Student Report* (2005), the instrument of the National Survey of Student Engagement. Measures of involvement represent student behaviors which are highly correlated with many desirable learning and personal developmental outcomes of college including the following five benchmarks of effective educational practice: (a) level of academic challenge, (b) student interactions with faculty, (c) active and collaborative learning, (d) enriching educational experiences, and (e) supportive campus environment.

Other definitions

Academic achievement was indicated by students’ self-reported cumulative grade point average (GPA). This variable, along with *gender*, *race/ethnicity* and *parents’ highest level of education* were included in the study in order to understand better the prevalence of flourishing, moderate mental health, and languishing in the sample. Parents’ highest level of education was used in this study as a reasonable proxy for participants’ socioeconomic status (The College Board, 2005).

Summary

The emerging field of positive psychology suggests to researchers that there is much to be learned about the human experience by assessing human strength and the conditions which promote it. This study attempted to understand the college student experience through the paradigmatic lens of positive psychology by exploring the relationship between mental health and involvement among traditionally aged undergraduates. Chapter II provides an overview of the positive psychology movement, the key indicators of mental health as defined in Keyes' (2002) mental health continuum, and the relevant literature on college student development and involvement. Chapter III will include an outline of the proposed methodology for this study, including a description of the research context; a description of procedures followed with regard to sampling, instrumentation, data collection, and data analysis; an explanation of the limitations and delimitations of the study; and a review of the ethical safeguards and considerations employed. Chapter IV will provide a description of the participants, answers to the proposed research questions, and a summary of the related statistical analyses. Chapter V will offer a summary and interpretation of the findings, implications for practice, limitations of the study, and suggestions for future research.

Chapter II

Review of the Literature

The goal of this study was to examine (a) the extent to which levels of mental health exist among traditionally aged college students and (b) the possible relationship between mental health, achievement, and college involvement. After highlighting the contemporary concerns about mental health on the college campus, this chapter will introduce positive psychology as an emerging field of scholarly inquiry – one that offers a framework for the questions being posed in this study. In the second section of the chapter, the concept of *flourishing*, or optimal mental health, will also be defined along with Keyes' (2002) mental health continuum model. Finally, student development theory will be examined, particularly the extent to which this body of research resonates with the core emphases of positive psychology – personal growth and healthy, optimal functioning. Because student involvement has been shown to be the single best predictor of student learning and development (Astin, 1993; Kuh, 2002; Pace, 1980; Pascarella & Terenzini, 1991, 2005), research based on involvement theory will be summarized. The summary of this literature review will emphasize the logic of exploring mental health on campus through a positive psychology lens and the justification for examining possible relationships between (a) mental health levels – *languishing, moderately mentally healthy, and flourishing*, and (b) the extent to which students are engaged in educationally purposeful activities.

Psychological Health on the College Campus

The prevalence of serious psychological illness among today's college students was recently identified as one of the five most significant issues facing contemporary campus communities during a nationwide gathering of senior student affairs officers (Snyder, 2004).

Indeed, the American college campus and its counseling center professionals represent the “newest front line in the war against mental illness” (Marano, 2002, ¶ 2) in an era marked by a dramatic increase in college students’ mental health problems (American Psychological Association, 2003; Benton, Robertson, Tseng, Newton, & Benton, 2003, Kadison, & DiGeronimo, 2004). According to a 13-year longitudinal study of more than 13,000 students seeking help at a large Midwestern university counseling center (Benton et al., 2003), contemporary college students are presenting themselves to counselors more frequently and with an increasingly complex array of psychological problems than ever before. Highly selective, ivy-league institutions have also reported students’ turning to therapists at a higher rate than either their contemporaries or the public at large (Dana, 2002). Clearly, the popular press reflects a profound concern about issues of depression, suicide, alcoholism, eating disorders, and other serious psychological diagnoses on college campuses (Crouse, 2003; Ellen, 2002; Franey, 2002; Hallett, 2003; Kelly, 2001; Knight, Wechsler, Kuo, Seibring, Weitzman, & Schuckit, 2002; Lamas, 2004; Lite, 2003; Marano, 2002; O’Connor, 2001; Peterson, 2002; Rimer, 2004; Schwartz, 2002; Shy, 2001). Administrators within higher education are feeling the pressure – for “increasingly, colleges are [seen as] the first best hope for rescuing the minds of America’s future” (Marano, 2002, ¶ 16).

High on the agenda of today’s colleges and universities is the promotion of student mental health, personal growth, and emotional well-being (Kadison & DiGeronimo, 2004; Rimer, 2004, Snyder, 2004). Yet, in an effort to promote better mental health on campus, is it enough to focus our research and attention primarily on the trends and treatment of those who are psychologically ill or those who struggle with intense personal and/or adjustment issues?

Positive psychologists argue that there is much to be learned about mental health by studying those who exhibit positive, healthy, adaptive features of human functioning (Csikszentmihalyi, 2003; Diener, 2003; Harvey & Pauwels, 2003; Keyes, 2002, 2003; Keyes & Haidt, 2003; Keyes & Lopez, 2002; King, 2003; Lyubmirsky & Abbe, 2003; Peterson & Park, 2003; Ryff, 2003; Seligman, 1998a, 1998b, Seligman & Pawelski, 2003; Snyder & Lopez, 2002). Rather than allowing research to be driven solely by what some have described as a therapeutic culture gone too far (Rimer, 2004; Seligman, 1998a, 1998b), positive psychologists would urge higher education scholars to complement the existing studies on psychopathology with empirical research investigating those factors that distinguish individual students/student communities who thrive, flourish and otherwise function in an optimal way from those with more limited functioning (Lyubomirsky & Abbe, 2003).

Using positive psychology as a disciplinary foundation, this study examined the extent to which various levels of mental health exist among traditionally aged undergraduate students at a small, selective public university. It also explored the relationship between mental health and students' involvement in the educational experience.

Positive Psychology

Historical Foundations

Former American Psychological Association (APA) President Martin Seligman (1998a) has argued that the building of human strength has been psychology's forgotten mission. He and like-minded colleagues agreed that "since the end of World War II, psychology has moved too far from its original roots, which were to make the lives of all people more fulfilling and productive, and too much toward the important, but not all important, area of curing mental

illness” (§ 3). The field of positive psychology attempts to extend the spectrum of inquiry, arguing that the study of mental *health* is distinct from and complementary to the well-established interest in mental illness (Keyes & Lopez, 2002). As the seminal *Positive Psychology Manifesto* (Sheldon, Frederickson, Rathbunde, & Csikszentmihalyi, 2000) defined this movement in modern psychology:

Positive psychology is the scientific study of optimal human functioning. It aims to discover and promote the factors that allow individuals and communities to thrive. The positive psychology movement represents a new commitment on the part of research psychologists to focus attention upon the sources of psychological health, thereby going beyond prior emphases upon disease and disorder (§ 2).

Unlike the traditional approach to clinical psychology which views people through the lens of a disease model, positive psychology rejects the notion that “understanding what is worst and weakest about us is more important than understanding what is best and bravest” (Maddux, 2002, p 22). A review of the 55 chapters written by over 100 contributing scholars in the recently published *Handbook of Positive Psychology* (Snyder & Lopez, 2002) provided a sampling of the diverse areas of scholarship included under the positive psychology umbrella — well-being, flow, resilience, creativity, optimism, compassion, problem-solving, gratitude, empathy, spirituality, humor, courage, and so on. A more recent volume entitled *Positive Psychology in Practice* (Linley & Joseph, 2004) offered comprehensive reviews of the positive psychology literature and related implications for scientific research and professional application.

The Three Pillars of Positive Psychology

As founder of the positive psychology movement, Seligman (in Keyes & Haidt, 2003)

outlined what he called the three pillars of positive psychology. The first includes the **positive subjective experience** of an individual's past, present and future. Included in the category of positive subjective experience are satisfaction, well-being, happiness, sensual pleasures, hope, and optimism. The second pillar of positive psychology involves the investigation of **positive individual characteristics**, otherwise referred to as character strengths and virtues (Aspinwall & Staudinger, 2003; Peterson & Seligman, 2004). Building on this line of inquiry, the recently published *Character Strengths and Virtues: A Handbook and Classification* (Peterson and Seligman, 2004) identified 24 discrete strengths which appear to be important across cultures and historical eras, including creativity, wisdom, integrity, citizenship, love, leadership, and humility. The third pillar of the positive psychology movement is the study of **positive institutions and communities**. Research in this area asks about those entities in society that promote optimal human functioning.

This current study focused primarily on the first and third pillars by looking at the positive subjective well-being of college students (defined in terms of mental health – flourishing to languishing) and the relationship between mental health and students' involvement in college.

The Role of Positive Psychology in Contemporary Research

In order to fully understand positive psychology as a movement, one must listen to the voices of both proponents and critics. Among the primary critics of positive psychology, Lazarus (2003) objected to the movement's claim to newness, saying that decades of research on stress and coping theory have been about the very same objectives. In fact, several scholars argued that the "positive and negative are inextricably linked together" (Lazarus, 2003, p. 106; Matthews & Zeidner, 2003) – that we can never fully appreciate the good without the bad. Matthews and

Zeidner (2003) expressed concern that “the hand of popular culture” (p. 137) is serving as a guiding force for positive psychology. Even Peterson and Park (2003), both strong proponents of positive psychology, acknowledged that the movement still lacks a common language and deep theory, and that there is not yet enough empirical evidence to demonstrate that the positive is more than just the absence of the negative. Furthermore, whereas “psychology-as-usual” (Seligman & Pawelski, 2003, p.159) supports applications and interventions based on research, positive psychology, in general, is not yet able to articulate recommendations with such empirical justification. Finally, positive psychologists are aware that “the study of people who are happy, healthy, and talented may be seen as a guilty luxury that diverts resources from the goals of problem-focused psychology” (Peterson & Park, 2003, p. 144).

Proponents of positive psychology argue for a more fully integrated field of psychology (King, 2003), claiming that “the routes to a good life are [indeed] an empirical matter” (Peterson & Park, 2003, p. 145). For example, in response to Lazarus’ (2003) criticisms, Harvey and Pauwels (2003) claimed that, while stress and coping studies do offer insight into “how to pull someone back from the brink when faced with great threats” (p. 127), they do not help us to know more about “how normal people flourish under more benign conditions” (Seligman & Csikszentmihalyi, 2003, p. 5). Similarly, Diener (2003) explained that positive psychology challenges human beings to enrich ourselves, not simply reduce the number of problems we face.

Rather than seeing positive psychology as a scholarly luxury, Peterson and Park (2003) suggested that a better understanding of well-being will benefit all people, troubled or not. In fact, positive psychology is just as relevant in times of trouble and suffering (Seligman, in Keyes

& Haidt, 2003):

Positive psychology holds that one of the best ways to help suffering people is to focus on positive things. People who are impoverished, depressed, or suicidal care about much more than just the relief of their suffering. These people care – sometimes desperately – about virtue, about purpose, about integrity, and about meaning (p. *xii*).

In addition, it has been suggested that developing strengths and subjective well-being is one effective method of combating difficult situations (Diener, 2003, p. 117).

Certainly, the self-help movement in the popular press illuminates a palpable longing among the general public “for voices to advise them on how to move life from ‘just okay’ to something considerably better” (Harvey & Pauwels, 2003), but until now scientific psychology has not always had much to say. For this reason, King (2003) noted, positive psychology is not only drawing attention to the gaps in existing psychology literature, but is encouraging a research agenda to fill the empty spaces.

Positive Psychology and Research on College Students

For college faculty and staff who work daily with some of the most able, engaged women and men in the nation, the idea of learning more about “nurturing genius” (Seligman in Keyes & Haidt, 2003) is surely consistent with the highest of professional aspirations. As Seligman argued, one of the forgotten tasks of psychology is to “nurture genius, to identify our most precious resource — talented young people — and find the conditions under which they will flourish” (p. *xv*). How might students’ experiences in their higher educational institutions encourage or hinder their thriving? After all, positive psychology is not only the study of positive feeling, but also the study of positive institutions (Seligman & Pawelski, 2003).

Scholars who have been writing in this vein have studied schools, workplaces . . . and entire cultures in trying to understand how external conditions affect not only subjective well-being, but also academic performance, job satisfaction, family harmony, and so on (Csikszentmihalyi, 2003, p. 115).

This area of scholarship “holds the potential to create, as a direct effect, an understanding and a scientifically informed practice of the pursuit of the best things in life and of family and civic virtue” (Seligman, 1998, ¶ 25) — a practice consistent with the purposes of American higher education. More recently, Aspinwall and Staudinger (2003) have asserted that “the identification of particular developmental, material, and social contexts that promote or debilitate human strengths . . . should be an important focus” (p. 14) for researchers. In advocating a new vision for psychology as a discipline, positive psychology also resonates with the core commitments and values of student affairs as a profession. As the American College Personnel Association’s (ACPA) *Principles of Good Practice* (1996) statement affirmed, student affairs practice is rooted in “our conviction that higher education has a duty to help students reach their full potential” (¶ 7). It is within this intersection of the comparable missions of positive psychology and higher education/student affairs that this study was undertaken.

This section presented a historical overview of positive psychology as a new movement in the field of psychology. Unlike the traditional approach to psychology that focuses primarily on the diagnosis and treatment of pathology, positive psychology argues that the study of mental *health* is distinct from though complementary to the study of illness. Further, the overarching purposes of higher education and positive psychology are comparable – to help individuals reach their full potential. The next section will explore *flourishing* as a conceptual and operational

definition of optimal mental health.

Flourishing

Broad Themes and Definitions

Believing that psychology should be about more than repairing what is wrong, Keyes and Haidt (2003) published an edited volume appropriately titled *Flourishing: Positive Psychology and the Well-Lived Life*. The book's organization and the topics of chapters therein reflect four overarching themes related to the concept of *flourishing* – four “major imperatives about living the good life” (p. 6): (a) rising to life's challenges and making the most of adversity; (b) reaching out and engaging with one another and one's environment, (c) finding personal fulfillment in experiences of creativity and productivity, and (d) looking beyond oneself and helping others find “lasting meaning, satisfaction, and wisdom in life” (p. 6). Above all, flourishing for Keyes and Haidt (2003) exemplifies optimal mental health. “Not only are flourishing individuals free of mental illness, they also are filled with emotional vitality and they are functioning positively in the private and social realms of their lives” (p. 6). It is this understanding of flourishing as a construct of mental health that informed not only the development of Keyes' (2002) mental health continuum, but also the current study which examined the involvements of undergraduate college students who flourish as compared to students who languish or who experience only moderate mental health.

Mental Health vs. Mental Illness

The irony of previous work in the area of mental health, is that ‘mental health’ has often translated, in actuality, to the study of ‘mental illness.’ Consider, for example, the stated mission of the National Institute of Mental Health (2004): “The mission of the National Institute of

Mental Health (NIMH) is to understand mind, brain and behavior, and thereby reducing the burden of mental illness through research” (¶ 1). Indeed, in the several decades since NIMH was first established, much has been learned about mental illness – “a persistent and substantial deviation from normal functioning that impairs an individual’s ability to execute their [sic] social roles . . . and generates suffering” (Spitzer & Wilson, 1975 as cited in Keyes, 2003).

Unfortunately, far less is known about positive emotions, states, and traits. Peterson and Clark (2003) highlighted the problem with psychology’s having focused so disproportionately on mental illness:

We have studied depression by using a standardized depression inventory in which the best one can do is score zero, indicating the absence of depressive symptoms. However, not all zero scores are equal. There is a world of difference between people who are not suicidal, not lethargic, and not self-deprecating versus those who bound out of bed in the morning with shiny faces and twinkling eyes” (p. 146).

Indeed, the prevailing assumption reflected in research and in national practice seems to be that mental health is appropriately defined by the absence of mental illness. Yet, if the positive were just the absence of the negative, positive psychology would be irrelevant, requiring only “a psychology of relieving negative states” (Seligman & Pawelski, 2003, p. 159). When it comes to matters of individual functioning, positive psychology asserts that the constructs by which we understand health and illness are “semantic opposites, but not always psychological opposites” (Peterson & Park, 2003, p. 146). In other words, the positive is often not yoked to the negative, but rather merely to the absence of the positive (Seligman & Pawelski, 2003).

Keyes' Definition of Mental Health

In an effort to empirically assess the nature and incidence of mental *health* as opposed to mental illness, Keyes (2002) introduced his concept of “flourishing” in what has been called “the first balanced framework for understanding and promoting mental health” (Snyder, 2003, p. 702). Not unlike mental illness, mental health according to Keyes’ model is defined as “an emergent condition based on the concept of a syndrome” (p. 208). In other words, a state of *health* is indicated when a set of symptoms at a specific level are exhibited for a period of time that coincides with distinctive cognitive and social functioning. Those symptoms Keyes (2002) considered in determining mental health are symptoms of an individual’s subjective well-being – including emotional well-being (positive feelings) and functional well-being (both psychological and social).

Subjective Well-Being as Symptoms of Mental Health

According to Keyes, Shmotkin, and Ryff (2002) subjective well-being emerged in the late 1950's as a relevant index for measuring people’s quality of life through individuals’ own perceptions of their lives. Broadly defined, subjective well-being (SWB) consists of “an individual’s cognitive evaluation of life, the presence of positive or pleasant emotions, and the absence of negative or unpleasant emotions” (Emmons, 2003, p. 109). One strength inherent in this definition is a belief that people have diverse values, goals, and strengths (Diener, Sapyta, & Suh, 2003). Thus, by allowing people to define well-being for themselves, such subjective measures accurately reflect whether a person’s life is satisfying based on his or her own values, goals, and life circumstances. “If a person is satisfied with her life, she probably has the characteristics that she deems important” (Diener, Sapyta, & Suh, 2003). Conceptually and

empirically, subjective well-being includes an assessment of one's own affective states (e.g., happiness, satisfaction), one's psychological functioning (e.g., personal growth, sense of purpose, autonomy), and one's social functioning (e.g., social acceptance, sense of community, belonging) (Keyes, 2002; Keyes, Hysom, & Lupo, 2000; Keyes & Waterman, 2003).

Subjective well-being, as Keyes (2002, 2003, 2005) explained is the critical psychological construct for understanding mental health. *Emotional well-being* (EWB) is defined as a cluster of symptoms reflecting the presence or absence of positive feelings about one's life. Such symptoms are ascertained, according to Keyes (2002, 2003, 2005) from individuals' responses to structured scales measuring the presence of positive affect and the absence of negative affect. However, Ryff (1989) has argued that well-being is more than just happiness with life. Therefore, subjective well-being also includes measures of positive functioning – both psychological and social. According to Keyes (2003), *psychological well-being* (PWB) represents more private and personal criteria for evaluation – criteria which have been measured reliably and with validity by a six dimensional scale that includes: “self acceptance, positive relations with others, personal growth, purpose in life, environmental mastery, and autonomy” (p. 300). Keyes further asserted (1998), that positive functioning in life must include the *social well-being* (SWB) as well, and that

individuals are mentally healthy when they view social life as meaningful and understandable, when they see society as possessing potential for growth, when they feel they belong in their communities, are able to accept all parts of society, and when they see their lives as contributing to society. (p. 300)

The Mental Health Continuum: From Languishing to Flourishing

The assertion that positive health is ‘more than the absence of illness’ may not be new to many who study physiological and psychological health (Jahoda, 1958). At the same time, there has been little significant progress over the last 50 years reflecting this view in either the scientific or practical realms (Ryff & Singer, 1998). Having recognized empirically that mental health and mental illness are not opposite dimensions of a single construct, Keyes’ (2002) introduced the mental health continuum. His model operationalizes mental health as a syndrome of symptoms of positive feelings and positive functioning in life. According to Keyes (2002):

The mental health continuum consists of complete and incomplete mental health. Adults with complete mental health are *flourishing* in life with high levels of well-being. To be flourishing, then is to be filled with positive emotions and to be functioning well psychologically and socially. Adults with incomplete mental health are *languishing* in life with low well-being. Thus, languishing may be conceived of as emptiness and stagnation, constituting a life of quiet despair (p. 210).

The diagnostic scheme for Keyes’ (2002) understanding of mental health actually parallels the scheme used by the American Psychiatric Association to diagnose major depression – individuals are diagnosed with the disorder when they exhibit just over half of the total symptoms measured. Thus, in terms of the mental health continuum, to be *languishing* in life, individuals must exhibit a low level on measures of emotional and functional well-being. Such individuals have incomplete mental health, yet they may not experience major depression. Similarly, individuals who are *flourishing* in life must exhibit high levels of well-being as measured by emotional and functional well-being scales. These individuals are “completely

mentally healthy because they are not only free of major depression, they also fit the diagnostic criteria for the presence of mental health” (Keyes, 2003, p. 302). Adults who are *moderately mentally healthy* are neither languishing nor flourishing.

Keyes’ (2002) Study of Mental Health in Midlife

The current study draws heavily on Keyes’ (2002) application of the mental health continuum model to data from the 1995 Midlife in the United States study of 3,032 adults between the ages of 25 and 74. Findings from that study revealed that most adults studied (89.5%) had not experienced a depressive episode in the previous 12 months, yet only 17.2% of those non-depressed cases fit the criteria for flourishing in life. More than half the sample (58.7%) had moderate mental health, and nearly 20% of adults fit the criteria for languishing in life (Keyes, 2003). Results of this study clearly illustrated that many individuals remain free of mental illness each year, and indeed over their lifetimes; yet the absence of mental illness does not reflect genuine mental health. There are grave reasons, Keyes (2002, 2003) noted, to be as concerned about pure languishing in life (the absence of both mental health and mental illness). Not only was languishing associated with substantial psycho-social impairment at levels comparable to an episode of pure depression, but languishing was found to be as prevalent as pure episodes of major depression. In contrast, functioning markedly improved among moderately mentally healthy adults and flourishing adults.

As scholars and practitioners continue to examine the importance of understanding mental health, the promotion of flourishing, Keyes (2003) argued, must become the objective, not merely the treatment and prevention of mental illness. “In sum, it is time to truly pursue the study and promotion of mental health, and this can be achieved with a more positive psychology”

(p. 309). This new mental health paradigm informed the current study as an attempt to look at an adult population not included in Keyes' (2002) analysis – namely traditionally aged (18-23 years) undergraduate college students – and to understand (a) the extent to which levels of mental health exist within the sampled population and (b) the relationship between mental health, academic achievement, and college students' involvement in the educational experience.

Critiques of Keyes' Mental Health Continuum

Current literature is surprisingly lacking in critical analyses of Keyes' (2002, 2005) operationalization of mental health as a “syndrome of symptoms of positive feelings and positive functioning in life” (p. 207). This could indicate that the mental health continuum model has not enjoyed significant exposure among psychology researchers. It might also be a reflection of positive psychology's relative newness within the broader realm of psychological inquiry. Nonetheless, Keyes (2005) himself admits that the proposed diagnostic criteria and validity of the diagnoses of mental health (i.e., flourishing, moderately mentally healthy, languishing) require further refinement. “It also remains an empirical question,” he adds, “whether a categorical taxon or a continuum best represents the latent structures of mental health.” Among the suggestions for necessary future research in this area are (a) explorations of additional criteria for measuring an individual's mental health, (b) alternative models of mental health, and (c) investigations to compare construct validity of diagnoses – flourishing, languishing, etc. – against expert evaluations of some kind (Keyes, 2005).

This section explored the themes and definitions of flourishing, and described Keyes' (2002, 2005) definition of mental health as symptoms of subjective well-being. The mental health continuum – including languishing, moderate mental health, and flourishing – was

outlined, as was Keyes' study which applied the mental health continuum model to national data from a study of adults aged 25-74. The next section will introduce student development theory as a realm of inquiry which shares many of positive psychology's central themes.

Student Development Theory in Higher Education

Echoes of Positive Psychology

Positive psychologist Carol Ryff (2003) suggested that "it is only from particular vantage points, such as clinical or abnormal psychology, that the positive focus constitutes a novelty. For other subfields, especially life-span developmental and personality psychology, there has always been concern for healthy, optimal human functioning" (p. 157). Indeed, Ryff's claim is supported by a review of the literature which forms the foundation of student development as a field of study for professionals in higher education (Evans, Forney, & DiBrito, 1998). In the 1960's particularly, social scientists – largely from psychology and sociology – began to theorize about how students change and grow in college. Sanford (1967), for example, proposed that optimal conditions for student growth and development include a balancing of environmental challenges and supports. His view of student development – "as a positive growth process in which the individual becomes increasingly able to integrate and act on many different experiences and influences" (Evans, Forney, & DiBtiro, 1998, p. 4) – resonates with the focus of positive psychology. During that same era, various psychosocial and cognitive-structural theorists (Chickering, 1969; Chickering & Reisser, 1993; Erikson, 1968; Kohlberg, 1969; Perry, 1968) specifically described stages of human growth and development, applying those theories to the college student experience.

A focus on promoting student growth, development, and learning is as central to higher

education now as it ever has been. Graduate preparation programs for aspiring student affairs professionals, for example, include and continue to expand curricular requirements that one or more classes on student development theory and its practical applications be completed (Evans, Forney, & DiBrito, 1998). According to Pascarella and Terenzini (1991, 2005) the number of student development theories has increased significantly since the groundbreaking work of the 1960's, including the rise of theories related to students intellectual and ethical development (Baxter-Magolda, 1992; Belenky, Clinchy, Goldberger, & Tarule, 1986; Gilligan, 1982; King & Kitchener, 1994), their gender identity development (Josselson, 1973, 1987, 1996), and their racial and ethnic identity (Cross, 1995; Helms, 1995, Phinney, 1990, 1992). Both in theory and in practice, student affairs professionals in higher education have had a sustained interest in how students grow and change in college, and in how institutional structures, programs, and services promote students' optimal functioning. While formal theories on student development are relatively new in the context of American higher education, the developmental focus is not new:

From the paternalistic faculty authority figure who supervised Harvard students in 1636 to the contemporary student affairs professional who uses developmental theory to examine students' human potential, student development has existed in some configuration . . . since the beginning (Evans, Forney, & DiBrito, 1998, p. 3).

The Impact of College on Students

A host of scholars have studied how college affects student outcomes (Astin, 1993; Pascarella & Terenzini, 1991, 2005), including learning, moral reasoning, identity development, and cognitive growth. Research has shown that college does indeed have an impact – that students do grow and change during their years in higher education (Boyer, 1987; Hood, 1984;

Hernandez, Hogan, Hathaway, & Lovell, 1999; Kuh, et.al., 1991; Moore, Lovell, McGann, & Wyrick, 1998; Pascarella & Terenzini, 1991, 2005). This understanding of impact refers to the change or growth that can be attributed to a student's college experience (Pascarella & Terenzini, 1991, 2005). Compared with theories built around psychosocial frameworks, the foundation of college impact models is the *origin* of change (as opposed to the *process* of change), such as institutional programs, policies, and/or specific student experiences within the higher education environment.

Astin's Student Involvement Theory

Alexander Astin "proposed one of the earliest college impact models" (Pascarella & Terenzini, 1991, p. 50). In 1984, Astin noted the burgeoning number of student development theories, lamenting that "even a casual reading of the extensive literature on student development in higher education can create confusion and perplexity" (p. 297). In an effort to bring some order to the chaos, he proposed a new, simplified, and user-friendly student development theory that would explain most of the existing empirical knowledge about environmental influences on student development. According to this theory – *Involvement Theory* – the simple, yet profound premise is that "students learn by becoming involved" (Astin, 1985, p. 133), and involvement itself was defined as "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1984, p. 297);

Thus 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. Conversely, a typical uninvolved student neglects studies, spends little time on campus, abstains from

extracurricular activities, and has infrequent contact with faculty members or other students. (p. 297)

While Astin (1984) acknowledged that motivation is an ever-present factor in human behavior, he also stressed that involvement theory is concerned with the behavioral aspects of the student experience. What a student actually does is more critical to defining involvement, according to the theory, than what the individual thinks or feels. The following are the five basic postulates of Astin's (1984) involvement theory:

1. Involvement refers to the investment of physical and psychological energy in various objects. The objects can be highly generalized (the student experience) or highly specific (preparing for a chemistry examination).
2. Regardless of its specific context, involvement occurs along a continuum; that is, different students manifest different degrees of involvement in a given context, and the same student manifests different degrees of involvement in different contexts at different times.
3. Involvement has both quantitative and qualitative features. The extent of a student's involvement in academic work, for instance, can be measured quantitatively (e.g., how many hours the student spent studying) and qualitatively (e.g., whether the student reviews and comprehends reading assignments or simply stares at the textbook and daydreams).
4. The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program.

5. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement. (p. 298)

Critiques of Involvement Theory

A repeated critique of Astin's Involvement Theory is that his propositions do not generally meet the accepted definitions of a theory (Pascarella & Terenzini, 2005): "Astin offers a general dynamic, a principle, rather than any detailed, systematic description of the behaviors of phenomena being predicted, the variables presumed to influence involvement, the mechanisms by which those relate to an influence one another, or the precise nature of the process by which growth or change occurs" (p. 54). In many ways, the significance of Astin's work lies more in the conceptual framework it has provided for other researchers than in its "theoretical" integrity.

Why Involvement Matters

In 1984, the Study Group on the Conditions of Excellence in American Higher Education issued a final report entitled *Involvement in Learning: Realizing the Potential in American Higher Education* (Schroeder, 1996). Of the three most critical conditions for excellence cited in the report – assessment and feedback, high expectations, and student involvement – student involvement was singled out as "perhaps the most important for the purposes of improving undergraduate education" (p. 17). Furthermore, the Study Group asserted:

There is now a great deal of research evidence to suggest that the more time and effort students invest in the learning process and the more intensely they engage in their own education, the greater will be their growth and achievement, their satisfaction with their educational experiences, and their persistence in college. (p. 17)

Moreover, it has been argued that "excellence and involvement in one's education are

synonymous” (Webb, 1987, p. 7), that the extent to which students learn and grow through involvement are the true measures of the “value added” or the “excellence” of a college or university (Webb, 1987).

A wealth of studies conducted over the last few decades affirms that involvement – both within and outside the classroom – does indeed affect students (Pascarella & Terenzini, 1991, 2005). In fact, college student development research (Astin, 1993; Pascarella & Terenzini, 1991, 2005; Pace, 1980) has affirmed that *what students do* – the quality of their effort (Pace, 1980) – is the most important factor in examining college outcomes. Research also shows that there are particular institutional practices which promote high levels of student engagement (Astin, 1991; Chickering & Reisser, 1993; Kuh, Schuh, Whitt, & Associates, 1991; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005; Pascarella & Terenzini, 1991, 2005). Chickering and Gamson (1987) have outlined “the best known set of such outcomes indicators” (Kuh, et.al., 2005) in *The Seven Principles for Practices in Undergraduate Education* – student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning. When students devote effort to such activities, they experience gains not only in general education and in practical skills, but also in personal and social development (National Survey of Student Engagement, 2005; Pascarella & Terenzini, 1991, 2005).

A balanced understanding of students’ functioning in college includes a thorough focus on classroom involvement, as well as a complementary examination of out-of-class involvement. As Kuh et al. (1991) reminded us, “in a given week, about two-thirds of a college student’s waking hours are devoted to activities other than attending class and studying” (p. xi). That fact

notwithstanding, students' out-of-class involvement is important not as much for the quantity of time such activity represents as for the qualitative effects of involvement on the student experience — “the effectiveness of the undergraduate experience . . . is directly linked to the time students spend on campus and to the quality of their involvement in activities” (Boyer, 1987, p 191). Not only is participation in extracurricular activity a factor that significantly affects college students' persistence in college (Astin, 1985), but students involved in out-of-class activities also are more positive about their college experience, more satisfied with their social life, living environment, and academic major than students who are not involved (Kegan, 1978).

The implication for estimating collegiate quality is clear. Those institutions that more fully engage their students in the variety of activities that contribute to valued outcomes of college can claim to be of higher quality compared with other colleges and universities where students are less engaged. (Kuh, 2002, p. 1)

The National Survey of Student Engagement

Within the last several years, the National Survey of Student Engagement (NSSE) was established with a grant from the Pew Charitable Trusts in an effort to assess the extent to which students are involved in empirically derived good educational practices (Kuh, 2002). Its primary activity is an annual survey of college students, the results of which document dimensions of quality in undergraduate education and assist colleges, universities, and other organizations to improve student learning. NSSE, and its instrument, *The College Student Report*, reflect the abundance of research on college student development which shows that the time and energy students devote to educationally purposeful activities is the single best predictor of their learning and personal development. For that reason, *The College Student Report* was selected to measure

student involvement for this study.

The NSSE (2005) results fall into five key clusters of activity/involvement variables that research has shown to be linked to desired outcomes of college:

1. **Level of Academic Challenge** – Challenging intellectual and creative work is central to student learning and collegiate quality. The importance of academic effort and the setting of high expectations for student performance are emphasized.
2. **Student Interactions with Faculty Members** – Students learn firsthand by interacting with faculty members inside and outside the classroom. Teachers are role models, mentors, and guides for life-long learning.
3. **Active and Collaborative Learning** – Students are intensely involved in their education and are asked to think about and apply what they are learning in different settings.
4. **Enriching Educational Experiences** – Academic programs are augmented by complementary learning opportunities inside and outside the classroom. Experiencing diversity, using technology, and participating in activities help students integrate and apply knowledge.
5. **Supportive Campus Environment** – The college is committed to students' success and cultivates positive relationships among different groups on campus.

By developing an instrument that provides valid, reliable data about the extent to which students are actually engaged in educational practices, NSSE offers a framework not only for understanding the student experience, but also for improving undergraduate education and reshaping the public perception of collegiate quality (National Survey of Student Engagement,

2005).

Intersection of Student Involvement and Mental Health

In 1994, the American College Personnel Association (ACPA) published *The Student Learning Imperative* as a call for student affairs professionals in higher education to intentionally create conditions on their campuses that enhance student learning and personal development. Although the terms *student learning* and *student development* refer to different aspects of the educational process, they are described in this watershed document as being “inextricably intertwined and inseparable” (p.1). King and Baxter-Magolda (1996) reflected this integrated view of learning and personal development in affirming that cognitive and affective dimensions are all parts of one process for students. The current study was an attempt to learn more about that affective dimension of the student experience by exploring mental health, as defined by Keyes’ (2002) mental health continuum, and evaluating the extent to which involvement in the educational experience is related to mental health. Scholars have shown that involvement is the single best predictor of student learning and development (Astin, 1993; Kuh, 2002; Pascarella & Terenzini, 1991; Pace, 1980). Does involvement also predict mental health?

Justification for the Study

The incidence and treatment of mental illness – particularly among students on college campuses – have demanded much attention in today’s public arena, among mental health practitioners, and within the ranks of traditional psychology researchers. Even Astin’s (1993) seminal higher education study, summarized in *What Matters in College: Four Critical Years Revisited*, indicated there is a notable decline observed during the college years in students’ sense of psychological well-being, yet “the role of the college experience in the student’s declining

sense of psychological well-being is unclear” (p. 397). While the standard approach might be to ask critical questions about dysfunctional students and those factors which have influenced them, the emerging field of positive psychology suggests complementary scholarship on healthy, adaptive features of human functioning. There is much to be learned, it is argued, from those who function at high levels – those who are *flourishing* emotionally, psychologically, and socially.

According to Carol Ryff (2003), positive psychology’s focus should not be limited to psychologists and those in the mental health field. Indeed, there is “ a call to take positive psychology beyond the confines of the discipline where it began – to link psycho-social strengths to positive health outcomes and thus to enhanced functioning of families, communities, and society” (p. 157-158). From a positive psychology perspective, therefore, it is important to learn more about positive health outcomes among traditionally aged undergraduate students in American colleges and universities. Knowing that involvement has already been linked to a host of other positive outcomes for college students, might there also then be a relationship between involvement and positive mental health outcomes? If optimal functioning in college students is most significantly reflective of high levels of involvement, then to what extent might flourishing (a state of mental health defined by high levels of emotional and functional well-being) also be related to student involvement? Positive psychology opens the door for a deeper understanding of mental health levels among college students, and the extent to which involvement is a related factor.

Because the only study conducted to date based on Keyes’ (2002) mental health continuum involved adults aged 25 and older, there are no comparative data on younger adults of traditional

college age (18-23). This study provides information that can be used by colleges and universities to better understand the prevalence and correlates of mental health on campus.

Summary

This literature review introduced positive psychology as an emerging field with the potential to shed new light on our understanding of mental health on American college campuses. Furthermore, Keyes' (2002, 2005) construct of *flourishing* – or optimal mental health – could make it possible to understand more about the well-being and optimal functioning of students, separate and aside from the presence or absence of a diagnosed pathology. In addition, because research has shown involvement to be a critical variable in understanding the quality of student experiences, one might hypothesize that there is a relationship between levels of mental health and college involvement. The following chapter identifies specific research questions pertaining to the relationship between mental health and involvement and offers a method for understanding this relationship.

Chapter III

Design and Methodology

The purpose of this chapter is to describe how the research question(s) proposed in this study were answered. Exploratory in nature, the study was designed to examine levels of mental health among traditionally aged undergraduate college students and the possible relationships between levels of mental health, academic achievement, and student involvement. In order to answer the stated research questions, four types of data were collected and analyzed – demographic data (including gender, race/ethnicity and parents' highest level of education), achievement data (grade point average), mental health data, and involvement data. The study tested the relationship between student involvement and mental health while controlling for demographics and academic achievement. The sections of this chapter re-introduce the research questions; describe the research context; outline the procedures that were followed with regard to sampling, instrumentation, data collection, and data analysis; explain the limitations and delimitations of the study, and describe the ethical safeguards and considerations employed.

Dependent and Independent Variables

There was one dependent variable – mental health status as measured by Keyes' (2002, 2005) operational definition of mental health (including sub-scales for emotional, psychological, and social well-being). The primary independent variable in this study was student involvement as defined and measured by the National Survey of Student Engagement's (NSSE) *College Student Report*. Additional independent variables included (a) gender, (b) academic achievement as measured by grade point average (GPA), and (c) parents' highest level of education, which was used as a proxy for socioeconomic status (The College Board, 2005). Race/ethnicity was

eliminated as a variable because of insufficient numbers of non-Caucasian respondents.

The Research Questions

The following three research questions were addressed in this study: (a) What are the characteristics of a sample of traditionally aged undergraduate students with regard to academic achievement, campus involvement, and mental health?; (b) To what extent is mental health category related to gender, parents' highest level of education, achievement and involvement among traditionally aged undergraduates?; and (c) To what extent does student involvement predict the variability in mental health among traditionally aged undergraduates?

The Research Context

This study examined the mental health, involvement, and achievement of traditionally aged undergraduate students (18-23) at a mid-sized, public university in the mid-Atlantic region of the United States. Classified as a “Doctoral/Research University – Intensive” institution according to the most recent Carnegie Classification (The Carnegie Foundation for the Advancement of Teaching, 2000), the school was referred to in this study as State College. It has a predominantly residential undergraduate population of approximately 5600 students. Throughout this study, all names that might identify the institution were changed to preserve the confidentiality of the data collected from students.

Participants

The hypothetical population for this study was traditionally aged undergraduate students. The accessible population – all the individuals who could realistically be included in the sample – was the entire population of traditionally aged undergraduate students at State College. While a convenience sample such as this would not be adequate for generalizing results to a target

population of all traditionally aged undergraduate students, it does not limit the interpretation or importance of a study such as this which was designed “to determine if two or more groups differ because of the effect of an independent variable” (Gall, Borg, & Gall, 1996, p. 180). In order to control for effects of predictable psycho-social development which occurs as students progress through their undergraduate experience, and in order to maximize the likelihood that students in the study would have had abundant opportunities for engagement in their educational experience, the sample for this study was all juniors at State College ($N = 1206$). Useable data from 534 students (44%) were used to answer the research questions through statistical analysis.

The participants in this study included a cohort of undergraduate juniors at State College enrolled during the 2005-2006 academic year. All 1206 undergraduate juniors were invited to complete the on-line questionnaire designed for this study. A total of 547 students (45%) logged onto the website to complete the survey, with a yield of 534 (44%) useable responses. Thirteen of the initial respondents were dropped from the study either because (a) their age was outside of the 18-23 year range which is considered “traditional” for undergraduates, or (b) the number of completed questionnaire items was insufficient for meaningful analysis. Several participants, for example, logged onto the web site and completed only a handful of items before logging off. Those participants were excluded from the study. In accordance with the NSSE (2005) guidelines, participants who completed less than 3/5 of the items for a given involvement scale were also dropped from the study. Demographic information for the sample is presented in Table 1. Note that percentages do not always sum to 100% due to rounding.

Table 1

Frequencies and Percentages for Demographic Variables (N = 534)

Variable	Participants		Total Sample	
	<i>f</i>	%	<i>f</i>	%
Gender				
Male	169	31.6	537	44.5
Female	365	68.4	669	55.5
Academic Major ^a				
Humanities	105	19.7	186	15.4
Social Sciences	183	34.3	376	31.2
Physical Sciences	114	21.3	254	21.1
Business	48	9.0	160	13.3
Interdisciplinary	84	15.7	188	15.6
Undeclared ^c	---	---	42	3.5
Parent Educ. Level				
Less than BA	53	9.9	<i>unknown</i>	
BA Degree	147	27.5	<i>unknown</i>	
Grad Degree	334	62.5	<i>unknown</i>	
Race/Ethnicity ^b				
Asian	25	4.7	84	7.0
Black	20	3.7	84	7.0
Caucasian	442	82.8	789	65.4
Hispanic	19	3.6	56	4.6
Other	28	5.2	193	16.0

^aMajor was used to measure the variability of grade point average (GPA) by disciplinary concentration. Because there was no significant difference in mean GPA by students' majors, further analysis with this variable was not attempted.

^b Given the small numbers of non-Caucasian respondents, meaningful statistical analyses using "Race/Ethnicity" as a variable were not possible. Thus, "Race/Ethnicity" was eliminated as a demographic variable in this study.

^cWhile institutional data for the total sample (N = 1206) included "undeclared" among the categories for "major," the questionnaire for this study did not include "undeclared" as an option. Respondents who had not declared a major were asked to indicate their intended major.

More than two-thirds of the respondents were female (68.4%, $n = 365$), while less than one-third (31.6%, $n = 169$) were male. For nearly all students in the sample, the highest level of parents' education included at least a college degree, with 62.5% ($n = 334$) of the students' having a parent who earned a graduate degree and 27.5% ($n = 147$) having a parent who earned a bachelor's degree. Only 9.9% ($n = 53$) reported that parents' highest level of education was less than a bachelor's degree. The majority (82.8%) of the respondents were Caucasian/White, with the remainder being Asian/Asian American (4.7%), Black/African American (3.7%), Hispanic (3.6%) and Other (5.2%). Due to lack of variability in Race/Ethnicity, further analysis with this variable was not attempted.

Because grade point average (GPA) was to be used as the sole measure for academic achievement, students' academic major was also examined to be certain that GPA did not vary significantly by disciplinary concentration. Social science majors comprised the largest subgroup (34.3%, $n = 183$, $M = 3.30$, $SD = .44$), followed by majors in physical sciences (21.3%, $n = 114$, $M = 3.31$, $SD = .44$), humanities (19.7%, $n = 105$, $M = 3.36$, $SD = .47$), interdisciplinary studies (15.7%, $n = 84$, $M = 3.33$, $SD = .41$), and business (9%, $n = 48$, $M = 3.37$, $SD = .37$). Grade point average for the sample ($N = 534$, reported on a 4.0 scale) ranged from a minimum of 1.2 to a maximum of 4.0, $M = 3.33$, $SD = .43$. Grade point averages were compared based on respondents' academic major, and a one-way ANOVA (summarized in Table 2) shows that there was no significant difference in GPA based on major, $F(4, 529) = .469$, $p = .759$. Given this lack of significant difference, total sample GPA was used in subsequent analyses.

Table 2

Analysis of Variance for Academic Major and Grade Point Average (GPA)

	Variation	<i>SS</i>	<i>df</i>	<i>F</i>	<i>p</i>
Academic Major	Between Groups	.353	4	.469	.759
	Within Groups	99.656	529		
	Total	100.009	533		

Instrumentation

For this study the researcher designed a single web-based questionnaire (see Appendix A) which included items from two already established instruments: (a) *The 2005 College Student Report*, published by the National Survey of Student Engagement (NSSE) to measure student involvement; and (b) a composite of mental health measures constructed by Keyes (2002) to measure emotional well-being, psychological well-being, and social well-being (see Appendix B and Appendix C). Demographic data (gender, race/ethnicity, and parents' highest level of education) were also collected via the web questionnaire, in addition to the respondent's self-reported grade point average. Pascarella and Terenzini (1991) noted that demographic characteristics of individuals may interact with the college involvement dimensions that are thought to impact an outcome being studied. Thus, the collection of such data – in this case the independent variables of gender, race/ethnicity, parents' highest level of education, and grade point average – led to a more thorough analysis of the nature of the relationship between involvement and mental health.

The College Student Report

The National Survey of Student Engagement (NSSE) is specifically designed to assess the extent to which students are engaged in empirically derived good educational practices and what they gain from their college experience . . . *The College Student Report* represents student behaviors that are highly correlated with many desirable learning and personal development outcomes of college (Kuh, 2002, p. 2).

The involvement measures of *The College Student Report* are divided into five National Benchmarks of Effective Educational Practice: (a) level of academic challenge, (b) active and collaborative learning, (c) student-faculty interaction, (d) enriching educational experiences, and (e) supportive campus environment. These benchmarks are normed on responses from approximately 245,000 first-year and senior students at 529 different four-year colleges and universities (National Survey of Student Engagement, 2005). Using the benchmark frequency tables included in NSSE's 2005 Annual Report the researcher identified the 42 items which combine to measure each of the five benchmarks and incorporated those items into the web-based questionnaire. To maintain the psychometric properties of the instrument, the 42 items were ordered and worded exactly as they appear in *The College Student Report (2005)*.

To establish the validity and reliability of *The College Student Report*, the NSSE Design Team conducted psychometric analyses following all five administrations of the instrument beginning with the field tests in 1999 through 2002. In terms of validity, items on the instrument have been shown to have high face and content validity, the responses to the items are approximately normally distributed, and patterns of responses to different clusters of items discriminate among students (Kuh, 2002). Furthermore, factor analysis was used to identify the

underlying properties of student engagement represented in the instrument (Kuh, 2002). As a result, *College Student Report* contains items broadly clustered for analysis under three categories with the following reliability coefficients: college activity items ($r = .85$), educational and personal growth items ($r = .90$), and opinions about the school ($r = .84$).

In order to establish the reliability of the instrument, stability was estimated by (a) measuring the strength of the association between scores across five annual administrations from 1999 to 2003, (b) using matched-sample t-tests to determine if differences existed in student responses to individual survey items within a two-year period, and (3) making use of a test-retest analysis. Finally, the NSSE conducted a series of focus groups with students to determine whether respondents were interpreting the items as intended by the Design Team (Kuh, 2002). Using the Pearson product moment correlation to examine the reliability coefficients for the items used to construct the benchmarks, the following was reported: For the items related to three of the benchmarks (academic challenge, enriching educational experiences, active and collaborative learning), the reliability coefficients were .74. The student interaction with faculty members items and supportive campus environment items had reliability coefficients of .75 and .78, respectively (Kuh, 2002). Such modest reliability levels are satisfactory for exploratory research, “for which purpose reliabilities of .60 or .50 will suffice” (Nunnally, 1967, p. 226).

Composite of Mental Health Measures

In his 2002 study, Keyes applied his operationalization of mental health as a “syndrome of symptoms of positive feelings and positive functioning in life” (p. 207). Specifically, mental health consists of three main clusters of symptoms: (a) emotional well-being, (b) psychological well-being, and (c) social well-being. The mental health scale Keyes (2002) developed and used

to measure relative states of mental health includes a total of forty items representing three sub-scales – seven items make up the emotional well-being scale, 18 items make up the psychological well-being scale, and 15 items make up the social well-being scale.

The **emotional well-being scale** (EWB) measures positive affect. Items ask respondents to indicate how much of the time they feel six symptoms of positive affect: (a) cheerful, (b) in good spirits, (c) extremely happy, (d) calm and peaceful, (e) satisfied, and (f) full of life. The five-point Likert-scale for these items ranged from 1 (*all the time*) to 5 (*none of the time*) and all items were reverse coded. Keyes reported that the internal reliability of the positive affect scale is .91 (Keyes, 2002). In one item, respondents also evaluate life satisfaction on a scale ranging from 0 (*worst possible life overall*) to 10 (*best possible life overall*).

The **psychological well-being scale** (PWB) reflects how much individuals are thriving in their private, personal lives (Keyes, 2005), and represents six distinctive dimensions of subjective well-being (Ryff & Keyes, 1995, cited in Keyes, 2002). Each of these dimensions is measured by three items, and there is a relative balance between negative and positive items. The six sub-scale dimensions with a representative item in parentheses are as follows: self acceptance (“I like most parts of my personality”), positive relations with others (People would describe me as a giving person, willing to share my time with others”), personal growth (“For me, life has been a continuous process of learning, changing, and growing”), purpose in life (“I sometimes feel as if I have done all there is to do in life”), environmental mastery (“I am good at managing the responsibilities of daily life”), and autonomy (“I tend to be influenced by people with strong opinions”). Respondents indicated the extent to which they agreed with the PWB statements using a Likert scale ranging from 1 (*Strongly Agree*) to 7 (*Strongly Disagree*).

According to Ryff's study (1989), the PWB scales have shown strong internal consistency and construct validity. While the three-item scales have shown low internal consistency (approximately .50) – likely an indication of the small number of indicators per scale – the internal consistency of the combined items is .81 (Keyes, 2002, p. 212). Confirmatory factor analyses also affirmed the use of this six-dimension structure for measuring psychological well-being with an Adjusted Goodness of Fit Index (AGFI) of .89 and a Bayesian information criterion (BIC) of -167.64 (Ryff & Keyes, 1995). In testing the theoretical structure of models of psychological well-being, this six-dimension “model showed dramatic improvement in fit over suggested alternatives, especially the single factor model” (Ryff & Keyes, 1995, p. 724).

The **social well-being scale (SWB)** measures the extent to which participants see themselves thriving in their public, social life. Again, respondents indicated the extent to which they agreed with the SWB statements using a Likert scale ranging from 1 (*Strongly Agree*) to 7 (*Strongly Disagree*).

The [five sub-scale dimensions] with a representative item in parentheses are as follows: social acceptance (“People do not care about other people’s problems”), social actualization (“Society isn’t improving for people like me”), social contribution (“My daily activities do not create anything worthwhile for my community”), social coherence (“I cannot make sense of what’s going on in the world”), and social integration (“I feel close to other people in my community”) (Keyes, 2002, p. 212).

As in the psychological well-being section, each sub-scale for in the social well-being section includes three items, each of which has shown modest ($r = .57$) to strong ($r = .81$) internal consistency (Keyes, 1998). The internal consistency of the combined social well-being measures

is .81 (Keyes, 2002). Confirmatory factor analyses supported the proposed five-factor structure for social well-being (Keyes, 1998). As a rule of thumb, goodness of fit indices of .90 or higher signify models that adequately fit the data (Keith, 2006). In comparing seven theoretical models of social well-being, the goodness of fit indices for this five-factor model exceeded .90 (Keyes, 1998).

Keyes (2002, 2005) mental health scales have not been tested with or normed for individuals aged 18-23. His original study (2002) involved adults aged 25-74, and a later focus of Keyes' research (2005) involved youth aged 12-18. Thus, there are no comparative national data for respondents of traditional college age (18-23). As a result, I calculated the reliabilities of Keyes' well-being measures using the data from this study. Chronbach's alpha coefficients were as follows: all well-being items together ($r = .90$), emotional well-being scale ($r = .86$), psychological well-being scale ($r = .80$) and social well-being scale ($r = .82$).

A confirmatory factor analysis was conducted using Keyes' model and the data collected from the 534 students at State College. The resulting AGFI was .81 and the Root Mean Square Error of Approximation (RMSEA) value was .058. These values are just below the ideal measures for goodness of fit which are .90 or higher for AGFI and $\leq .05$ for RMSEA (Keith, 2006). Based on the confirmatory factor analysis I conducted, factor score weights were calculated for each of the 40 items that make up Keyes' instrument (see Appendix D). These score weights were then applied to the responses for all 40 well-being items. The 40 weighted item scores were added together to result in an individual's Mental Health Score – a continuous variable representing the sum of all Emotional, Psychological, and Social Well-Being responses.

Because this study would also examine mental health as a categorical variable, I then

followed Keyes' (2002) method of identifying levels of mental health by category. The sums for each of the three scales of well-being (i.e., emotional, psychological, social) were divided by the number of constituent items in each scale, placed on a 100 point scale, and SPSS was used to calculate tertile cut points for each sub-scale based on the range of responses received in this study. Participants with scores in the upper tertiles of one of the two emotional well-being scales, and six of the 11 scales of psychological and social well-being were classified as "flourishing." Individuals with scores in the lower tertiles of one of the two emotional well-being scales, and six of the 11 scales of psychological and social well-being were classified as "languishing." Those who did not fall into either category were be classified as "moderately mentally healthy" (p. 212).

In this study, therefore, the dependent variable (mental health) was considered in two ways – as both an ordinal variable (i.e., flourishing, moderate mental healthy, languishing), and as a continuous variable (weighted sum of all items measuring emotional, psychological, and social well-being).

Procedures

Data Collection

An on-line application outlining the components of the proposed study was completed and sent to State College's Protection of Human Subjects Committee for approval. Once approval was received (see Appendix E), a list of email addresses for all undergraduate junior students at State College was secured from the Office of Institutional Research. An invitation to participate in the study was sent via those email addresses (See Appendix F), along with a web link to a site which contains the on-line instrument designed for this study. The on-line

instrument required students to authenticate at log-on by typing an assigned user identification and password. The instrument was designed so that only those with such identification and passwords could participate, and so that each of those who did participate could complete the questionnaire only once. A pre-test was conducted with a small sample of non-junior undergraduates to be certain the instrument worked as intended.

Two follow-up email messages were sent to non-respondents within the last several days before the stated deadline for participation in the study (see Appendix F). This is a standard approach which resulted in an increasing rate of response. The technology that was used in building the web-based questionnaire allowed for responses to be instantly exported into spreadsheet software (Microsoft Excel), so the resulting data could be exported directly into SPSS 13's predictive analytic software for running the statistical analyses.

Data Analysis

The analyses explored the relationships among academic achievement, involvement and mental health in the sample of undergraduate students. The following are the three primary questions, and the related sub-questions which were addressed by the analyses:

Question 1: What are the characteristics of a sample of traditionally aged undergraduate students with regard to academic achievement, involvement, and mental health?;

- 1a.** Considering gender as a variable, what are the characteristics of students in the sample with regard to academic achievement, involvement, and mental health?
- 1b.** Considering parents' highest level of education as a variable, what are the characteristics of students in the sample with regard to academic achievement, involvement, and mental health?

- 1c.** Considering mental health category as a variable, what are the characteristics of students in the sample?

Descriptive statistics were run first for the sample as a whole, and then when sorted by gender, parents' highest level of education, and mental health category – flourishing, moderately mentally healthy, and languishing. Measures of central tendency and variability were calculated for academic achievement (GPA), each of the five benchmarks measuring student involvement, and mental health (continuous score).

Question 2: To what extent is mental health category related to gender, parents' highest level of education, academic achievement, and involvement among traditionally aged undergraduates?

- 2a.** Is mental health category related to gender in the population sampled?
- 2b.** Is mental health category related to parents' highest level of education in the population sampled?
- 2c.** Is mental health category related to achievement in the population sampled?
- 2d.** Is mental health category related to involvement in the population sampled?

For 2a and 2b, Chi Square tests for independence were run to determine whether the observed frequencies of students who are flourishing, moderately mentally healthy, and languishing differed significantly from expected frequencies based on (a) gender and (b) parents' highest level of education. To answer 2c and 2d, a one-way ANOVA was run to determine if mean GPA and involvement scores differed significantly by mental health category.

Question 3: To what extent does student involvement predict the variability in mental health among traditionally aged undergraduates?

- 3a. Is the principal relationship between mental health and involvement altered when academic achievement is included as an independent variable?
- 3b. Is the principal relationship between mental health and involvement altered when parents' highest level of education is considered as a moderating variable?
- 3c. Is the principal relationship between mental health and involvement altered when gender is introduced as a moderating variable?

Separate stepwise multiple regression analyses were run for (a) whole sample, (b) by parents' highest level of education, and (c) by gender to determine the unique contributions of each independent variable (academic achievement and the five involvement variables) to mental health, as well as their correlations one to another. These regression analyses were conducted using the continuous measure of mental health (mental health score) as the dependent variable.

Limitations

One limitation of this study is that it is observational, not experimental. Thus, the statistical analyses may indicate significant correlations, but they are not sufficient to predict causation. The results can provide only a sense of the relationship between involvement, academic achievement, and mental health. Correlational data, by definition, cannot establish causality (Gall, Borg, & Gall, 1996). Furthermore, the instruments used in this study to measure student involvement and mental health rely on the self-reporting of data. While this is less a concern for the measuring of mental health, since the operational definition of mental health consists of "an individual's subjective well-being," it is a limitation in the collection of involvement data.

Researchers have agreed that longitudinal studies are best in the field of positive

psychology, particularly when studying constructs that are developmental in nature (Lazarus, 2003; Peterson & Park, 2003). Nevertheless, as this study was exploratory and resources are limited, such an extensive study is not possible. Further studies will be needed to determine longitudinal changes in student mental health and involvement patterns.

Delimitations

This study is based on data collected from traditionally aged (18-23) undergraduate juniors at a highly residential, selective public university located in the mid-Atlantic region of the United States. Consequently, the results of this study may differ from findings in similar studies involving different kinds of students in different college or university environments. While this may raise concerns about the generalizability of results, the data from this exploratory study nonetheless lay the groundwork for follow-up research with regard to student involvement and mental health.

Ethical Safeguards and Considerations

The protection of human subjects is a critical factor in the design of this study. In fact, the research only commenced once permission was granted from State College's Protection of Human Subjects Committee. Several basic procedures should be followed by all researchers in order to conduct studies ethically and in accordance with the highest of professional standards. The following is a list of those procedures, as well as a description of how each was incorporated in the proposed study.

Selecting Human Subjects Equitably

This safeguard assures that any individual in the available population has a reasonable chance of being in the sample. Because all undergraduate juniors at State College were invited to

take part in the study, the equitable selection of subjects was not a concern in this case.

Obtaining informed consent

For this study, each email message sent to students inviting their participation fully described the nature of the study and the participant's rights. In addition, before students were permitted to log onto the web site to complete the questionnaire, they were required to read a statement which reinforced the fact that participation was voluntary and that they had the right to withdraw at any time. Furthermore, the site explained that by typing one's user identification and password to access the questionnaire, the participant affirmed that he or she had been fully informed and gave consent to be a part of the study (see Appendix F).

Ensuring Privacy and Confidentiality

In all correspondence with the students, as well as in the text on the first page of the web-based questionnaire, participants were assured that their privacy and confidentiality was guaranteed.

Assessing the Risk-Benefit Ratio

For this study, an assessment of the risk benefit ratio was considered in the proposed design and methodology. A review by the Protection of Human Subjects Committee at State College affirmed the appropriateness of this study in this regard. This researcher was aware of no known risks related to the use of the *College Student Report* or the well-being scales that measure mental health. In terms of study benefits, a better understanding of the relationship between mental health and involvement might assist State College in encouraging involvement that promotes flourishing and/or minimizes languishing.

Providing Safeguards When Using Deception

The proposed study did not include plans to deceive participants in any way.

Summary

The purpose of this study was to explore the relationships between mental health and involvement among traditionally aged (18-23) college students. Using a sample of all undergraduate juniors enrolled in State College in Fall 2005, the researcher collected and analyzed data to answer the three primary questions stated in the beginning of this chapter. In addition to re-introducing the research questions and hypotheses; this chapter has described the research context; outlined the procedures to be followed with regard to sampling, instrumentation, data collection, and data analysis; explained the limitations and delimitations of the study, and described the ethical safeguards and considerations employed.

Chapter IV

Data Analysis

The purpose of this exploratory study was to examine levels of mental health among traditionally aged undergraduate college students (as measured by the well-being scales of Keyes' mental health continuum) and the relationships between levels of mental health (i.e., flourishing, moderately mentally health, languishing), academic achievement (i.e., grade point average), and student involvement (i.e., level of academic challenge, student/faculty interactions, supportive campus environment, active/collaborative learning, enriching educational experiences). In testing the relationships between levels of mental health, academic achievement and student involvement, gender and parents' highest level of education were considered as independent variables.

The following research questions were addressed: (a) What are the characteristics of a sample of traditionally aged undergraduate students with regard to academic achievement, campus involvement, and mental health?; (b) To what extent is mental health category related to gender, parents' highest level of education, achievement, and involvement among traditionally aged undergraduates?; and (c) To what extent does student involvement predict the variability in mental health among traditionally aged undergraduates? This chapter will provide a description of the sample, answers to the proposed research questions, and a summary. For the purposes of this study, statistical significance was set at the .05 level.

Keyes' (2002, 2005) mental health continuum model was used to classify respondents by mental health level – flourishing, moderately mentally healthy, and languishing. Students who scored in the upper tertile on at least one of the two emotional well-being scales and on at least

six of the 11 functional well-being scales (i.e., psychological and social) were categorized as “flourishing.” Those students who scored in the lower tertile on at least one of the two emotional well-being scales and on at least six of the 11 functional well-being scales (i.e., psychological and social) were categorized as “languishing.” All others were categorized as “moderately mentally healthy.” As Table 3 indicates, more than two-thirds of the participants in this study were moderately mentally healthy (67.2%, $n = 359$), while 15.4% ($n = 82$) were flourishing and 17.4% ($n = 93$) were languishing.

Table 3

Frequencies and Percentages for Mental Health Categories (N = 534)

Variable	<i>f</i>	%
Mental Health Category		
Flourishing	82	15.4
Moderately Mentally Healthy	359	67.2
Languishing	93	17.4

Research Question 1

Research Question 1: *What are the characteristics of a sample of traditionally aged undergraduate students with regard to academic achievement, involvement, and mental health?*

In order to fully address this question, descriptive statistics were run for the total sample (see Table 4). In addition, three additional sub-questions were posed to explore the sample’s characteristics when (a) gender, (b) parents highest level of education, and (c) mental health category were considered as variables. First, this section will answer the Research Question 1 for

the sample as a whole. It will then describe the sample characteristics by gender, parents' highest level of education, and mental health category.

Table 4

Descriptive Statistics for Continuous Variables, by Gender

Variable	Total N = 534		Males N = 169		Females N = 365		t-Test Results		
	Mean	SD	Mean	SD	Mean	SD	df	t	p
GPA ^a	3.33	.43	3.30	.47	3.34	.42	532	-0.763	.446
Mental Health Score ^b	71.66	8.93	70.42	8.97	72.24	8.87	532	-2.20	.028*
Involvement Variables ^c									
Academic Challenge (AC)	56.41	11.45	53.70	11.45	57.66	11.24	532	-3.77	.000*
Active/Collaborative Learning (ACL)	41.69	14.67	42.09	15.23	41.51	14.43	532	.427	.670
Student/Faculty Interaction (SFI)	35.93	18.38	37.83	20.22	35.04	17.43	532	1.63	.103
Enriching Educ. Experiences (EEE)	40.34	13.42	38.76	13.69	41.06	13.24	532	-1.85	.066
Supportive Campus Environment (SCE)	58.15	14.75	56.02	15.44	59.13	14.33	532	-2.27	.024*

* $p < .05$

^a Grade Point Average (GPA) is based on a 4.0 scale

^b Mental Health Score is the sum of all 40 items from the 3 Subjective Well-Being Scales (emotional, psychological, and social), when weighted based on confirmatory factor analysis of Keyes' (2002, 2005) mental health continuum model. Weighted scores were then placed on a 100-point scale.

^c Involvement variables are the Five Benchmarks for Effective Educational Practice as measured by the National Survey of Student Engagement's *College Student Report* (2005).

Table 4 summarizes the means and standard deviations of the total sample ($N = 534$), as well as for males ($n = 169$) and females ($n = 365$), for the study's primary continuous variables – academic achievement (as measured by GPA), mental health (as measured using Keyes' 40-item instrument for emotional, psychological, and social well-being), and involvement (as measured by students' *College Student Report* scores five benchmarks of effective educational practices). The mean GPA for the total sample was 3.33 ($SD = .43$) and the mean Mental Health Score was 71.66 ($SD = 8.93$). The following are the sample's descriptive statistics for the five involvement variables in decreasing order by means: Supportive Campus Environment ($M = 58.15$, $SD = 14.75$), Academic Challenge ($M = 56.41$, $SD = 11.45$), Active/Collaborative Learning ($M = 41.69$, $SD = 14.67$), Enriching Educational Experiences ($M = 40.34$, $SD = 13.42$), and Student Faculty Interaction ($M = 35.93$, $SD = 18.38$).

Question 1a

Considering gender as a variable, what are the characteristics of the students in the sample with regard to academic achievement, involvement, and mental health? In addition to providing descriptive statistics for the total sample, Table 4 also shows the means and standard deviations for males ($n = 169$) and females ($n = 365$) in the sample. The average GPA for males was 3.30 ($SD = .47$), with a distribution that was negatively skewed ($-.86$) and more leptokurtic than a normal distribution ($.46$). The average GPA for females was 3.34 ($SD = .42$), with a distribution that was negatively skewed ($-.92$) and leptokurtic (1.71). Males' mean Mental Health Score was 70.42 ($SD = 8.97$), with a distribution that was negatively skewed ($-.87$) and leptokurtic ($.73$), while the females' mean Mental Health Score was 72.24 ($SD = 8.87$), with a distribution that was

even more negatively skewed (-1.2) and leptokurtic (1.73). Skewness and kurtosis statistics for GPA and Mental Health score are summarized in Table 5, along with similar statistics for the five campus involvement variables.

Table 5

Skewness and Kurtosis Statistics for Score Distributions, by Gender

Variable	Skewness Statistic		Kurtosis Statistic	
	Male	Female	Male	Female
GPA	-.86	-.92	.46	1.71
Mental Health Score	-.87	-1.2	.73	1.73
Academic Challenge (AC)	-.19	.06	-.03	-.25
Active/Collaborative Learning (ACL)	.56	.53	.36	.19
Student/Faculty Interaction (SFI)	.64	.76	-.02	.29
Enriching Educational Experiences (EEE)	.13	.29	-.18	.01
Supportive Campus Environment (SCE)	-.02	-.04	.29	.51

For males, the following are the descriptive statistics for the five involvement variables in decreasing order by means: Supportive Campus Environment ($M = 56.02$, $SD = 15.44$), Academic Challenge ($M = 53.70$, $SD = 11.45$), Active/Collaborative Learning ($M = 42.09$, $SD = 15.23$), Enriching Educational Experiences ($M = 38.76$, $SD = 13.69$), and Student/Faculty Interaction ($M = 37.83$, $SD = 20.22$). For females, the following are the descriptive statistics for the five involvement variables in decreasing order by means: Supportive Campus Environment

($M = 59.13$, $SD = 14.33$), Academic Challenge ($M = 57.66$, $SD = 11.24$), Active/Collaborative Learning ($M = 41.51$, $SD = 14.43$), Enriching Educational Experiences ($M = 41.06$, $SD = 13.24$), and Student/Faculty Interaction ($M = 35.04$, $SD = 17.43$).

Independent t -tests (two-tailed) were run to compare the following mean scores for males and females: (a) grade point average, (b) mental health scores and (c) scores for each of the five involvement variables. There was no significant difference between males and females in terms of mean GPA ($t(532) = -.76$, $p = .446$) or mean scores for Active/Collaborative Learning ($t(532) = .43$, $p = .67$), Student/Faculty Interaction ($t(532) = 1.63$, $p = .103$), and Enriching Educational Experiences ($t(532) = -1.85$, $p = .066$). T -tests did reveal that the mean scores for females were significantly higher than the mean score for males for Academic Challenge ($t(532) = -3.77$, $p < .01$), Supportive Campus Environment ($t(532) = -2.27$, $p < .05$), and mental health score (continuous) ($t(532) = -2.2$, $p < .05$).

Question 1b

Considering parents' highest level of education as a variable, what are the characteristics of the students in the sample with regard to academic achievement, involvement, and mental health?

Table 6 includes the means and standard deviations for the sample based on parents' highest level of education – Less than BA ($n = 53$), BA Degree ($n = 147$), and Graduate Degree ($n = 334$). The average GPA was 3.13 ($SD = .46$) for students whose parents earned less than a bachelor's degree, 3.34 ($SD = .40$) for students whose parents' highest level of education was a bachelor's, and 3.35 ($SD = .44$) for students whose parents' highest level of education was a graduate degree. The mean Mental Health Scores for these three groups was 71.33 ($SD = 8.32$) for "Less than BA," 72.89 ($SD = 8.44$) for "BA Degree" and 71.17 ($SD = 9.21$) for "Graduate

Table 6

Descriptive Statistics for Continuous Variables, by Parents' Highest Level of Education (SES)

Variable	Less than BA N = 53		BA Degree N = 147		Grad Degree N = 334	
	Mean	SD	Mean	SD	Mean	SD
GPA ^a	3.13	.46	3.34	.40	3.35	.44
Mental Health Score ^b	71.33	8.32	72.89	8.44	71.17	9.21
Involvement Variables ^c						
Academic Challenge (AC)	56.36	10.43	55.96	10.83	56.61	11.88
Active/Collaborative Learning (ACL)	41.45	13.81	41.68	14.87	41.74	14.76
Student/Faculty Interaction (SFI)	34.98	20.20	34.65	17.88	36.64	18.32
Enriching Educ. Experiences (EEE)	39.96	13.43	39.55	13.14	40.74	13.56
Supportive Campus Environment (SCE)	59.57	13.26	58.69	16.85	57.68	13.98

^a Grade Point Average (GPA) is based on a 4.0 scale

^b Mental Health Score is the sum of all 40 items from the 3 Subjective Well-Being Scales (emotional, psychological, and social), when weighted based on confirmatory factor analysis of Keyes' (2002, 2005) mental health continuum model. Weighted scores were then placed on a 100-point scale.

^c Involvement variables are the Five Benchmarks for Effective Educational Practice as measured by the National Survey of Student Engagement's *College Student Report* (2005).

Degree.”

For students with parents in the “Less than BA” group, the following are the descriptive statistics for the five involvement variables in decreasing order by means: Supportive Campus Environment ($M = 59.57$, $SD = 13.26$), Academic Challenge ($M = 56.36$, $SD = 10.43$), Active/Collaborative Learning ($M = 41.45$, $SD = 13.81$), Enriching Educational Experiences ($M = 39.96$, $SD = 13.43$), and Student/Faculty Interaction ($M = 34.98$, $SD = 20.20$). For students with parents in the “BA Degree” group, the following are the descriptive statistics for the five involvement variables in decreasing order by means: Supportive Campus Environment ($M = 58.69$, $SD = 16.85$), Academic Challenge ($M = 55.96$, $SD = 10.83$), Active/Collaborative Learning ($M = 41.68$, $SD = 14.87$), Enriching Educational Experiences ($M = 39.55$, $SD = 13.14$), and Student/Faculty Interaction ($M = 34.65$, $SD = 17.88$).

Finally, for students with parents in the “Graduate Degree” group, the following are descriptive statistics for the five involvement variables in decreasing order by means: Supportive Campus Environment ($M = 57.68$, $SD = 13.98$), Academic Challenge ($M = 56.61$, $SD = 11.88$), Active/Collaborative Learning ($M = 41.74$, $SD = 14.76$), Enriching Educational Experiences ($M = 40.74$, $SD = 13.56$), and Student/Faculty Interaction ($M = 36.64$, $SD = 18.32$). When ordering the five involvement variables by mean score, the order was identical for all three groups designated by parents’ highest level of education.

A one-way ANOVA was run to determine if the following mean scores differed significantly based upon parents’ highest level of education: (a) grade point average, (b) mental health score, and (c) scores for each of the five involvement variables. The analysis of variance data in Table 7 show that only GPA differed significantly by parents’ highest level of education,

Table 7

Analysis of Variance for Parents' Highest Level of Education, Grade Point Average, Mental Health Score, and Involvement Scores

	Variation	SS	df	F	p
GPA	Between Groups	2.153	2	5.842*	.003
	Within Groups	97.855	531		
	Total	100.009	533		
Mental Health Score	Between Groups	306.942	2	1.930	.146
	Within Groups	42233.449	531		
	Total	42540.391	533		
Academic Challenge (AC)	Between Groups	43.116	2	.164	.849
	Within Groups	69793.162	531		
	Total	69836.278	533		
Active/Collaborative Learning (ACL)	Between Groups	3.786	2	.009	.991
	Within Groups	114772.58	531		
	Total	114776.37	533		
Student/Faculty Interaction (SFI)	Between Groups	454.671	2	.672	.511
	Within Groups	179692.73	531		
	Total	180147.41	533		
Enriching Educational Experiences (EEE)	Between Groups	153.906	2	.426	.653
	Within Groups	95816.173	531		
	Total	95970.079	533		
Supportive Campus Environment (SCE)	Between Groups	224.175	2	.514	.598
	Within Groups	115716.33	531		
	Total	115940.50	533		

* p < .05

$F(2, 531) = 5.842, p < .05$. According to a Tukey post hoc analysis, participants whose parents' highest level of education was "Less than BA" had significantly lower GPAs than both participants whose parents' highest level of education was "BA Degree" and those whose parents' highest level of education was "Graduate Degree." Parents' highest level of education was not a significant factor in comparing mean mental health scores or the mean scores for any of the five involvement variables.

Question 1c

Considering mental health category as a variable, what are the characteristics of the students in the sample with regard to academic achievement, involvement, and mental health?

Table 8 includes the means and standard deviations for the sample based on mental health category – flourishing ($n = 82$), moderately mentally healthy ($n = 359$), and languishing ($n = 93$). The average GPA was 3.37 ($SD = .42$) for students who are flourishing, 3.34 ($SD = .41$) for students who are moderately mentally healthy, and 3.25 ($SD = .51$) for students who are languishing. The mean Mental Health Scores for these three groups was 81.64 ($SD = 2.50$) for the flourishing students, 72.75 ($SD = 5.67$) for the moderately mentally healthy students, and 58.65 ($SD = 8.20$) for the languishing students.

For students in the flourishing category, the following are the descriptive statistics for the five involvement variables in decreasing order by means: Supportive Campus Environment ($M = 68.84, SD = 14.73$), Academic Challenge ($M = 58.64, SD = 12.05$), Active/Collaborative Learning ($M = 49.98, SD = 16.04$), Enriching Educational Experiences ($M = 47.54, SD = 13.03$), and Student/Faculty Interaction ($M = 46.62, SD = 20.83$).

Table 8

Descriptive Statistics for Continuous Variables, by Mental Health Category

Variable	Flourishing		Moderately Mentally Healthy		Languishing	
	N = 82		N = 359		N = 93	
	Mean	SD	Mean	SD	Mean	SD
GPA ^a	3.37	.42	3.34	.41	3.25	.51
Mental Health Score ^b	81.64	2.50	72.75	5.67	58.65	8.20
Involvement Variables ^c						
Academic Challenge (AC)	58.64	12.05	57.21	11.01	51.35	11.24
Active/Collaborative Learning (ACL)	49.98	16.04	41.54	14.18	35.01	11.47
Student/Faculty Interaction (SFI)	46.62	20.83	35.09	17.53	29.73	15.40
Enriching Educ. Experiences (EEE)	47.54	13.03	40.17	13.01	34.60	12.46
Supportive Campus Environment (SCE)	68.84	14.73	58.10	13.51	48.89	13.03

^a Grade Point Average (GPA) is based on a 4.0 scale

^b Mental Health Score is the sum of all 40 items from the 3 Subjective Well-Being Scales (emotional, psychological, and social), when weighted based on confirmatory factor analysis of Keyes' (2002, 2005) mental health continuum model. Weighted scores were then placed on a 100-point scale.

^c Involvement variables are the Five Benchmarks for Effective Educational Practice as measured by the National Survey of Student Engagement's *College Student Report* (2005).

For students in the moderately mentally healthy category, the following are the descriptive statistics for the five involvement variables in decreasing order by means: Supportive Campus Environment ($M = 58.10$, $SD = 13.51$), Academic Challenge ($M = 57.21$, $SD = 11.01$), Active/Collaborative Learning ($M = 41.54$, $SD = 14.18$), Enriching Educational Experiences ($M = 40.17$, $SD = 13.01$), and Student/Faculty Interaction ($M = 35.09$, $SD = 17.53$).

Finally, for students in the languishing category, the following are the descriptive statistics for the five involvement variables in decreasing order by means: Academic Challenge ($M = 51.35$, $SD = 11.24$), Supportive Campus Environment ($M = 48.89$, $SD = 13.03$), Active/Collaborative Learning ($M = 35.01$, $SD = 11.47$), Enriching Educational Experiences ($M = 34.60$, $SD = 12.46$), and Student/Faculty Interaction ($M = 29.73$, $SD = 15.40$).

A one-way ANOVA was run to determine if the following mean scores differed significantly based upon mental health category: (a) grade point average, (b) mental health scores, and (c) scores for each of the five involvement variables. The analysis of variance data in Table 9 show that mean GPA did not differ significantly by mental health category.

As should be expected, there was a significant difference in the mean mental health score based on students' mental health category. This was important affirmation, because multiple regression analyses conducted later required a continuous variable for mental health (mental health score). Table 9 includes the ANOVA results, $F(2, 531) = 354.853$, $p < .001$. A Student-Newman-Keuls post-hoc analysis indicated that the mean differences among the three mental health categories are all significant at the .001 level.

Table 9

Analysis of Variance for Mental Health Category and Grade Point Average, Mental Health Score, and Involvement Scores

	Variation	SS	df	F	p
GPA	Between Groups	.822	2	2.201	.112
	Within Groups	99.186	531		
	Total	100.009	533		
Mental Health Score ^a	Between Groups	24333.877	2	354.853	.000*
	Within Groups	18206.514	531		
	Total	42540.391	533		
Academic Challenge (AC)	Between Groups	3016.815	2	11.987	.000*
	Within Groups	66819.463	531		
	Total	69836.278	533		
Active/Collaborative Learning (ACL)	Between Groups	9796.787	2	24.777	.000*
	Within Groups	104979.58	531		
	Total	114776.37	533		
Student/Faculty Interaction (SFI)	Between Groups	13204.622	2	21.00	.000*
	Within Groups	166942.78	531		
	Total	180147.41	533		
Enriching Educational Experiences (EEE)	Between Groups	7318.344	2	21.917	.000*
	Within Groups	88651.735	531		
	Total	95970.079	533		
Supportive Campus Environment (SCE)	Between Groups	17341.985	2	46.697	.000*
	Within Groups	98598.518	531		
	Total	115940.50	533		

* p < .001

^a In this study, some analyses were conducted using a categorical variable for mental health, while others used a continuous score for measuring mental health. Categorically, mental health was defined in terms of Keyes' (2002,2005) criteria for "diagnosing" an individual's mental health status as being flourishing, moderately mentally healthy, or languishing. The continuous variable for mental health was calculated using the three well-being scales that comprised Keyes' instrument. Because the criteria for classifying individuals by mental health category were not derived from an overall mental health score, it was important to validate the relationship between mental health category and mental health score.

The ANOVA results in Table 9 also show that there is a significant mean score difference between and among mental health categories on all five of the involvement variables: for Academic Challenge, $F(2, 531) = 11.987, p < .001$; for Active/Collaborative Learning, $F(2, 531) = 24.777, p < .001$; for Student/Faculty Interaction, $F(2, 531) = 21.0, p < .001$; for Enriching Educational Experiences, $F(2, 531) = 21.917, p < .001$; and for Supportive Campus Environment, $F(2, 531) = 46.697, p < .001$.

Question 2

Research Question 2: *To what extent is mental health category related to gender, parents' highest level of education, academic achievement, and involvement among traditionally aged undergraduates?* To answer this second broad question, four sub-questions were posed. The following are those sub-questions, the statistical analyses employed to answer them, and the results of the analyses.

Question 2a

Is mental health category related to gender in the population sampled? A Chi Square test for independence was run to determine whether the observed frequencies of students who are flourishing, moderately mentally healthy, or languishing differ significantly from expected frequencies based on gender. Of the males in the sample, 13.6% were flourishing, 66.9% were moderately mentally healthy, and 19.5% were languishing. Of the females in the sample, 16.2% were flourishing, 67.4% were moderately mentally healthy, and 16.4% were languishing. The Chi Square analysis (see Table 10) showed that mental health category is independent of gender, and the proportion of students in the three mental health categories does not differ significantly by gender, $\chi^2(2, N = 534) = 1.13, p = .569$.

Table 10

Crosstabulation of Mental Health Category and Gender

Mental Health (MH) Category	Gender		Total
	Male	Female	
Flourishing	23	59	82
% within MH category	28%	72%	100%
% within Gender	13.6%	16.2%	15.4%
Moderately Mentally Healthy	113	246	359
% within MH category	31.5%	68.5%	100%
% within Gender	66.9%	67.4%	67.2%
Languishing	33	60	93
% within MH category	35.5%	64.5%	100%
% within Gender	19.5%	16.4%	17.4%
Total	169	365	534
% within MH category	31.6%	68.4%	100%
% within Gender	100%	100%	100%

$X^2(2, N = 534) = 1.13, p = .569$

Question 2b

Is mental health category related to parents' highest level of education in the population

sampled? A Chi Square test for independence was run to determine whether the observed

frequencies of students who are flourishing, moderately mentally healthy, or languishing differ

significantly from expected frequencies based on parents' highest level of education. Of those in

the sample with parents whose highest level of education was "Less than BA," 5.7% were

Table 11

Crosstabulation of Mental Health Category and Parent Educational Level (SES)

Mental Health Category	Parent Educational Level (SES)			Total
	Less than BA	BA Degree	Grad Degree	
Flourishing	3	28	51	82
% within MH category	3.7%	34.1%	62.2%	100%
% within SES	5.7%	19%	15.3%	15.4%
Moderately Mentally Healthy	43	97	219	359
% within MH category	12%	27%	61%	100%
% within SES	81.1%	66%	65.6%	67.2%
Languishing	7	22	64	93
% within MH category	7.5%	23.7%	68.8%	100%
% within SES	13.2%	15%	19.2%	17.4%
Total	53	147	334	534
% within MH category	9.9%	27.5%	62.5%	100%
% within SES	100%	100%	100%	100%

$$X^2(4, N = 534) = 7.86, p = .096$$

flourishing, 81.1% were moderately mentally healthy, and 13.2% were languishing. Of those in the sample whose parents' highest level of education was "BA Degree," 19% were flourishing, 66% were moderately mentally healthy, and 15% were languishing. Of those in the sample whose parents' highest level of education was "Graduate Degree," 15.3% were flourishing, 65.6% were moderately mentally healthy, and 19.2% were languishing. The Chi Square analysis (see Table 11) showed that mental health category is independent of parents' highest level of

education, and the proportion of students in the three mental health categories does not differ significantly by that variable, $X^2(4, N = 534) = 7.86, p = .096$.

Question 2c

Is mental health category related to achievement in the population sampled? A one-way ANOVA was run to determine if mean grade point average (GPA) differed significantly by mental health category. The analysis of variance data in Table 9 show that academic achievement as measured by GPA does not differ significantly by mental health category, $F(2, 531) = 2.201, p = .112$. I concluded that mental health **category** for this sample of traditionally aged undergraduate students is not significantly related to (a) gender, (b) parents' highest level of education, or (c) academic achievement.

Question 2d

Is mental health category related to involvement in the population sampled? A one way ANOVA was run to determine if the mean scores for the five NSSE (2005) involvement variables differed significantly by mental health category. The analysis of variance data in Table 9 show that there was a significant mean score difference between and among mental health categories on all five of the involvement variables (see answer to *Question 1c* above). For all five involvement variables, the mean scores for participants who were categorized as “flourishing” were significantly higher than the mean scores for participants who were categorized as “moderately mentally healthy.” Likewise, those who were categorized as “moderately mentally healthy” had mean scores that were significantly higher than the mean scores of those who were categorized as “languishing.” Tukey post-hoc analyses indicated that the mean score difference for Academic Challenge (AC) was not significant ($p = .551$) for

participants in the “flourishing” and “moderately mentally healthy” categories, although there was a significant difference ($p < .001$) between the mean AC score of those in the “languishing” category and those in the other two groups. For the other four involvement variables, the mean score differences were significant between and among all three mental health categories ($p < .026$ in one comparison, $p < .001$ on all others).

Question 3

Research Question 3: *To what extent does student involvement predict the variability in mental health among traditionally aged undergraduates?* Because stepwise multiple regression analysis can establish “which subset of a group of predictors may be used to predict some criterion” (Keith, 2006, p. 95), that was the method selected to address Research Question 3 and the three related sub-questions. Prior to conducting the regression analyses, however, variables were examined for potential problems with multicollinearity. According to Keith (2006), “multicollinearity occurs when several independent variables correlate at an excessively high level with one another” (p. 199). The correlation matrix for the independent variables used in this study’s regression analyses is included in Table 12. These statistics suggest that multicollinearity could be a concern – in all but 2 of the 21 correlation calculations, the independent variables for achievement, involvement, and mental health were significantly correlated one with another ($p < .01$). In order to safeguard against the effects of multicollinearity, collinearity diagnostics were run during each of the following regression analyses. Specifically, the variance inflation factor (VIF) is cited for each analysis as “an index

Table 12

Correlation Matrix for Academic Achievement, Involvement, and Mental Health Scores

	MH	GPA	AC	ACL	SFI	EEE	SCE
Mental Health Score (MH)	1.0						
Grade Point Average (GPA)	.123*	1.0					
Academic Challenge (AC)	.251**	.089	1.0				
Active/Collaborative Learning (ACL)	.278**	.093	.411**	1.0			
Student/Faculty Interaction (SFI)	.231**	.198**	.377**	.510**	1.0		
Enriching Educational Experiences (EEE)	.293**	.133**	.312**	.468**	.340**	1.0	
Supportive Campus Environment (SCE)	.446**	.124*	.200**	.197**	.298**	.231**	1.0

Note. N = 534. Mental Health Score is the dependent variable.

**Correlations are significant at $p < .001$ (1-tailed)

* Correlations are significant at $p < .01$ (1-tailed)

of the amount that the variance of each regression coefficient is increased' over that with uncorrelated independent variables" (Cohen et. al., 2003, p. 423 as cited in Keith, 2006, p. 201). Variance inflation factor (VIF) values as high as 6 or 7 are typically interpreted as a signal for excessive multicollinearity (Keith, 2006). In this study, no VIF value in any of the regression

analyses was higher than 1.5. Thus, multicollinearity appeared not to be a complication.

As Keith (2006) noted, researchers also must not ignore the magnitude of effects when reporting statistical significance in regression analyses. The value of β , therefore, is listed among the regression coefficients. Using Keith's (2006) guidelines for judging the magnitude of effects, β 's below .05 are too small to be considered meaningful; β 's above .05 but less than .10 are small, but meaningful; β 's from .10 to .25 are considered moderate; and β 's above .25 are considered large. An examination of the β values for each variable in the regression models was important to interpreting the effect sizes of those variables of statistical significance in predicting mental health score.

The first analysis was for the total sample, with mental health score as the dependent variable. Stepwise multiple regression was used to select the best model for predicting students' mental health score using the following independent variables: (a) Grade Point Average, (b) Academic Challenge score, (c) Active/Collaborative Learning score, (d) Student/Faculty Interaction score, (e) Enriching Educational Experiences score, (f) Supportive Campus Environment score.

Table 13 summarizes the individual regression coefficients for the four models resulting from the regression analysis. A linear combination of four of the five involvement variables yielded the best model in predicting mental health score – Supportive Campus Environment (SCE), Enriching Educational Experiences (EEE), Active/Collaborative Learning (ACL), and Academic Challenge (AC), $R^2 = .258$, $F(4, 529) = 45.952$, $p < .001$ (see Table 14). There was a large effect size for Supportive Campus Environment ($\beta = .377$), with moderate effect sizes for Enriching Educational Experiences ($\beta = .128$) and Active/Collaborative Learning ($\beta = .105$), and

Table 13

Summary of Stepwise Multiple Regression Analysis for Variables Predicting Mental Health Score (N = 534)

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>Sig.</i>	<i>VIF</i>
Step 1						
Supportive Campus Environment (SCE)	.270	.024	.446	11.482	.000	1.0
Step 2						
Supportive Campus Environment (SCE)	.242	.024	.399	10.246	.000	1.056
Enriching Educational Experiences (EEE)	.134	.026	.201	5.155	.000	1.056
Step 3						
Supportive Campus Environment (SCE)	.234	.024	.386	9.948	.000	1.068
Enriching Educational Experiences (EEE)	.093	.029	.140	3.255	.001	1.315
Active/Collaborative Learning (ACL)	.083	.026	.136	3.170	.002	1.295
Step 4						
Supportive Campus Environment (SCE)	.228	.024	.377	9.674	.000	1.081
Enriching Educational Experiences (EEE)	.085	.029	.128	2.953	.003	1.337
Active/Collaborative Learning (ACL)	.064	.027	.105	2.354	.019	1.429
Academic Challenge (AC)	.072	.033	.092	2.211	.027	1.246

Note. Excluded Variables were Grade Point Average (GPA) and Student Faculty Interaction (SFI)

a small effect size for Academic Challenge ($\beta = .092$). The adjusted R^2 for this model was .252, indicating that the four involvement variables combined to account for 25% of the variance in mental health score. Variables excluded from the model were grade point average (GPA) and Student/Faculty Interaction (SFI).

Table 14

Model Summary for Stepwise Multiple Regression Analysis for Variables Predicting Mental Health Score (N = 534)

Model	R	R ²	Adj. R ²	R ² Δ	F	Sig.
Model 1	.446 ^a	.199	.197	.199	131.842	.000
Model 2	.487 ^b	.237	.234	.038	82.379	.000
Model 3	.501 ^c	.251	.247	.014	59.206	.000
Model 4	.508	.258	.252	.007	45.952	.000

a. Predictors: (Constant), SCE Score

b. Predictors: (Constant), SCE Score, EEE Score

c. Predictors: (Constant), SCE Score, EEE Score, ACL Score

d. Predictors: (Constant), SCE Score, EEE Score, ACL Score, AC Score

Question 3a

Is the principal relationship between mental health and involvement altered when academic achievement is included as an independent variable? According to the models resulting from the regression of grade point average and involvement variables on mental health score for the total sample ($N = 534$), achievement (as measured by GPA) was not a significant predictor of mental health score (see Tables 13 and 14), while involvement variables were. GPA was actually

one of the two variables excluded from all regression models, despite the fact that GPA and mental health score are correlated ($r = .123, p < .01$, two tailed). Therefore, the principal relationship between mental health and involvement in this sample is not affected by academic achievement.

Question 3b

Is the principal relationship between mental health and involvement altered when parents' highest level of education is introduced as an independent variable? In order to justify conducting multiple regression analyses on the sample based on parents' highest level of education, a one-way ANOVA was run to determine if mean mental health score differed significantly by that independent variable. The analysis of variance data in Table 15 show that mean mental health scores did not differ significantly by parents' highest level of education, $F(2, 531) = 1.930, p = .146$. Thus, no regression analyses were run taking this moderating variable into account.

Table 15

Analysis of Variance for Parents Highest Level of Education and Mental Health Score

	Variation	SS	df	F	p
Parents Highest Level of Education	Between Groups	306.942	2	1.930	.146
	Within Groups	42233.449	531		
	Total	42540.391	533		

$p > .05$

Question 3c

Is the principal relationship between mental health and involvement altered when gender is introduced as a moderating variable? In order to justify conducting separate multiple regression analyses for each gender, a one-way ANOVA was run to determine if mean mental health score differed significantly by gender. The analysis of variance data in Table 16 show that mean mental health scores did differ significantly by gender, $F(1, 532) = 4.838$, $p < .05$, warranting these follow-up analyses. Mental health scores of females ($M = 72.24$, $SD = 8.87$) were higher than mental health scores of males in the sample ($M = 70.42$, $SD = 8.97$).

Table 16

Analysis of Variance for Gender and Mental Health Score

	Variation	SS	df	F	p
Gender	Between Groups	383.384	1	4.838*	.028
	Within Groups	42157.006	532		
	Total	42540.391	533		

* $p < .05$

Table 17 summarizes the individual regression coefficients for the three steps resulting from the regression analysis for variables predicting mental health score for males ($n = 169$). A linear combination of three of the five involvement variables yielded the best model in predicting mental health score – Supportive Campus Environment (SCE), Enriching Educational Experiences (EEE), and Academic Challenge (AC), $R^2 = .275$, $F(3, 165) = 20.192$, $p < .001$ (see Table 18).

Table 17
Summary of Stepwise Multiple Regression Analysis for Variables Predicting Mental Health Score for Males (N = 169)

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>Sig.</i>	<i>VIF</i>
Step 1						
Supportive Campus Environment (SCE)	.251	.041	.432	6.190	.000	1.00
Step 2						
Supportive Campus Environment (SCE)	.218	.040	.376	5.484	.000	1.046
Enriching Educational Experiences (EEE)	.175	.045	.268	3.905	.000	1.046
Step 3						
Supportive Campus Environment (SCE)	.187	.042	.321	4.438	.000	1.193
Enriching Educational Experiences (EEE)	.156	.045	.238	3.444	.001	1.089
Academic Challenge (AC)	.124	.057	.158	2.155	.033	1.222

Note. Excluded Variables were Grade Point Average (GPA), Active/Collaborative Learning (ACL), and Student Faculty Interaction (SFI)

There was a large effect size for Supportive Campus Environment ($\beta = .321$), with moderate effect sizes for Enriching Educational Experiences ($\beta = .238$) and Academic Challenge ($\beta = .158$). The adjusted R^2 for this model was .262, indicating that the three involvement variables combined to account for 26% of the variance in mental health score. Variables excluded from the model for males were grade point average (GPA), Active/Collaborative Learning (ACL), and

Student/Faculty Interaction (SFI).

Table 18

Model Summary for Stepwise Multiple Regression Analysis for Variables Predicting Mental Health Score for Males (N = 169)

Model	R	R ²	Adj R ²	R ² Δ	F	Sig.
Model 1	.432 ^a	.187	.182	.187	38.321	.000
Model 2	.505 ^b	.255	.246	.068	28.421	.000
Model 3	.525 ^c	.275	.262	.020	20.912	.000

a. Predictors: (Constant), SCE Score

b. Predictors: (Constant), SCE Score, EEE Score

c. Predictors: (Constant), SCE Score, EEE Score, AC Score

Table 19 summarizes the individual regression coefficients for the two steps resulting from the regression analysis for variables predicting mental health score for females ($n = 365$). A linear combination of two of the five involvement variables yielded the best model in predicting mental health score – Supportive Campus Environment (SCE) and Active Collaborative Learning (ACL), $R^2 = .233$, $F(2, 362) = 54.991$, $p < .001$ (see Table 20).

There was a large effect size for Supportive Campus Environment ($\beta = .419$), with a moderate effect size for Active/Collaborative Learning ($\beta = .189$). The adjusted R^2 for this model was .229, indicating that the two involvement variables combined to account for 23% of the variance in mental health score. Variables excluded from the model for females were grade point average (GPA), Enriching Educational Experiences (EEE), Academic Challenge (AC), and Student/Faculty Interaction (SFI).

Table 19

Summary of Stepwise Multiple Regression Analysis for Variables Predicting Mental Health Score for Females (N = 365)

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>Sig.</i>	<i>VIF</i>
Step 1						
Supportive Campus Environment (SCE)	.275	.029	.445	9.467	.000	1.00
Step 2						
Supportive Campus Environment (SCE)	.259	.029	.419	9.017	.000	1.019
Active/Collaborative Learning (ACL)	.116	.029	.189	4.065	.000	1.019

Note. Excluded Variables were Grade Point Average (GPA), Enriching Educational Experiences (EEE), Academic Challenge (AC), and Student Faculty Interaction (SFI)

Table 20

Model Summary for Stepwise Multiple Regression Analysis for Variables Predicting Mental Health Score for Females (N = 365)

Model	R	R ²	Adj. R ²	R ² Δ	F	Sig.
Model 1	.445 ^a	.198	.196	.198	89.621	.000
Model 2	.483 ^b	.233	.229	.035	54.991	.000

a. Predictors: (Constant), SCE Score

b. Predictors: (Constant), SCE Score, ACL Score

For both males and females, the involvement variable with the largest effect size for predicting mental health score was Supportive Campus Environment (SCE). In the multiple regression analysis for involvement variables predicting mental health score for males (see Table 18), the ΔR^2 for Supportive Campus Environment was .187, indicating that nearly 19% of the variance in male students' mental health scores was predicted by SCE score. In the multiple regression analysis for involvement variables predicting mental health score for females (see Table 20), the ΔR^2 for Supportive Campus Environment was .198, indicating that nearly 20% of the variance in female students' mental health scores was predicted by SCE score. The second most predictive involvement variables were different for males and females. For males it was Enriching Educational Experiences (EEE) accounting for an additional 7% of the variance in mental health score ($\beta = .238$). For females, the second most predictive involvement variable was Active/Collaborative Learning (ACL) which accounted for an additional 4% of the variance in mental health score ($\beta = .189$).

Follow-Up Question 4

As noted in addressing Question 3b, Supportive Campus Environment (SCE) was the involvement variable with the largest effect size for predicting mental health score for both males and females. Nearly 19% of the variance in male students' mental health scores was predicted by SCE score, and nearly 20% of the variance in female students' mental health scores was predicted by SCE score. Because we know that college generally affects men and women differently (Pascarella & Terenzini, 1999, 2005), one further analysis was run based on the following six individual items on the College Student Report (2005) questionnaire that combine to measure Supportive Campus Environment (SCE):

1. Campus environment provides support you need to help you succeed academically
2. Campus environment helps you cope with your non-academic responsibilities
3. Campus environment provides the support you need to thrive socially
4. Quality of relationships with other students
5. Quality of relationships with faculty members
6. Quality of relationships with administrative personnel and offices

Table 21

Summary of Stepwise Multiple Regression Analysis for Supportive Campus Environment (SCE) Variables in Predicting Mental Health Score for Males (N = 169)

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>Sig.</i>	<i>VIF</i>
Step 1						
Quality of Relationships With Faculty	.185	.036	.370	5.148	.000	1.000
Step 2						
Quality of Relationships with Faculty	.147	.037	.294	4.030	.000	1.099
Quality of Relationships with Students	.118	.034	.253	3.470	.001	1.099
Step 3						
Quality of Relationships with Faculty	.120	.037	.239	3.207	.002	1.189
Quality of Relationships with Students	.102	.034	.221	3.036	.003	1.130
Support to Thrive Socially	.065	.024	.198	2.696	.008	1.153

Note. Excluded Variables were (a) Support to Succeed Academically, (b) Support in Coping with Non-Academic Responsibilities, (c) Quality of Relationships with Administrators/Offices

Stepwise multiple regression was used to select the best model for predicting students' mental health score based on these six variables for Supportive Campus Environment (SCE). Table 21 summarizes the individual regression coefficients for the three models resulting from the regression analysis for SCE variables predicting mental health score for males ($n = 169$). A linear combination of three of the six SCE involvement variables yielded the best model in predicting mental health score – Quality of Relationships with Faculty, Quality of Relationships with Students, and Support to Thrive Socially, $R^2 = .229$, $F(3, 165) = 16.364$, $p < .001$ (see Table 22).

Table 22

Model Summary for Stepwise Multiple Regression Analysis for Supportive Campus Environment (SCE) Variables in Predicting Mental Health Score for Males (N = 169)

Model	R	R ²	Adj R ²	R ² Δ	F	Sig.
Model 1	.370 ^a	.137	.132	.137	26.506	.000
Model 2	.442 ^b	.195	.186	.058	20.150	.000
Model 3	.479 ^c	.229	.215	.034	16.364	.000

a. Predictors: (Constant), Quality of Relationships with Faculty

b. Predictors: (Constant), Quality of Relationships with Faculty, Quality of Relationships with Students

c. Predictors: (Constant), Quality of Relationships with Faculty, Quality of Relationships with Students, Support to Thrive Socially

There were moderate effect sizes for all three predictor variables: Quality of Relationships with Faculty ($\beta = .239$), Quality of Relationships with Students ($\beta = .221$) and Support to Thrive Socially ($\beta = .198$). The adjusted R² for this model was .215, indicating that

the three involvement variables combined to account for 22% of the variance in mental health score for males. SCE variables excluded from the model for males were (a) Support to Succeed Academically, (b) Support in Coping with Non-Academic Responsibilities, and (c) Quality of Relationships with Administrators/Offices.

Table 23 summarizes the individual regression coefficients for the three models resulting from the regression analysis for SCE variables predicting mental health score for females ($n = 365$). A linear combination of three of the six SCE involvement variables yielded the best model in predicting mental health score – Quality of Relationships with Students, Quality of Relationships with Administrators/Offices, and Support to Thrive Academically, $R^2 = .283$, $F(3, 361) = 47.507$, $p < .001$ (see Table 24).

There was a large effect size for Quality of Relationships with Students ($\beta = .419$), with moderate effect sizes for Quality of Relationships with Administrators/Offices ($\beta = .159$) and Support to Thrive Academically ($\beta = .108$). The adjusted R^2 for this model was .277, indicating that the three SCE variables combined to account for 28% of the variance in mental health score. Variables excluded from the model for females were (a) Quality of Relationships with Faculty, (b) Support in Coping with Non-Academic Responsibilities, and (c) Support to Thrive Socially.

In comparing the data for males and females, one of the Supportive Campus Environment (SCE) variables was common to both – Quality of Relationships with Students. However, this variable was most predictive of mental health for females (24% of the variance), but only second most predictive of the mental health for males (6%). The most predictive variable for males – Quality of Relationships with Faculty (14% of the variance) – was not even included in the

Table 23

Summary of Stepwise Multiple Regression Analysis for Supportive Campus Environment (SCE) Variables in Predicting Mental Health Score for Females (N = 365)

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>Sig.</i>	<i>VIF</i>
Step 1						
Quality of Relationships With Students	.232	.022	.489	10.676	.000	1.0
Step 2						
Quality of Relationships with Students	.206	.022	.435	9.303	.000	1.087
Quality of Relationships with Administrators/Staff	.079	.019	.192	4.109	.000	1.087
Step 3						
Quality of Relationships with Students	.199	.022	.419	8.938	.000	1.109
Quality of Relationships with Administrators/Staff	.066	.020	.159	3.264	.001	1.194
Support to Succeed Academically	.040	.018	.108	2.263	.024	1.158

Note. Excluded Variables were (a) Support to Succeed Socially, (b) Support in Coping with Non-Academic Responsibilities, (c) Quality of Relationships with Faculty

regression model for females. Likewise, the second most predictive variable for females – Quality of Relationships with Administrators/Offices (3% of the variance) – was not included in the regression model for males.

Table 24

Model Summary for Stepwise Multiple Regression Analysis for Supportive Campus Environment (SCE) Variables in Predicting Mental Health Score for Females (N = 365)

Model	R	R ²	Adj. R ²	R ² Δ	F	Sig.
Model 1	.489 ^a	.239	.239	.239	113.982	.000
Model 2	.522 ^b	.273	.269	.034	67.927	.000
Model 3	.532 ^c	.283	.277	.010	47.507	.000

a. Predictors: (Constant), Quality of Relationships with Students

b. Predictors: (Constant), Quality of Relationships with Students, Quality of Relationships with Administrators/Staff

c. Predictors: (Constant), Quality of Relationships with Students, Quality of Relationships with Administrators/Staff, Support to Thrive Academically

Summary

This chapter presented the results of statistical analyses conducted (a) to examine the prevalence of levels of mental health among traditionally aged college students and (b) to explore the relationships between mental health, academic achievement, and involvement. Gender and parents' highest level of education were considered as moderating variables. Based on Keyes' (2002, 2005) mental health continuum model, more than two-thirds of the respondents were classified as being moderately mentally healthy (67.2%), with the remainder being classified on the two extremes of the continuum – flourishing (15.4%) or languishing (17.4%). Chi square analyses showed that the proportion of students in each of these mental health categories was not

related to gender or to parents' highest level of education. Further, analysis of variance data revealed that academic achievement as measured by grade point average (GPA) did not differ significantly by mental health category.

In exploring the relationships between mental health, academic achievement and involvement, mental health score (a weighted composite of item scores from Keyes' instrument) was used as a continuous variable. Involvement variables included student scores on the five benchmarks of educational practice (as measured by the NSSE *College Student Report*, 2005). Analysis of variance data revealed that the mean involvement scores for all five benchmark variables – Academic Challenge (AC), Active/Collaborative Learning (ACL), Student/Faculty Interaction (SFI), Enriching Educational Experiences (EEE) and Supportive Campus Environment (SCE) – did differ significantly by mental health category ($p < .001$). In all but one between group post hoc comparison, the mean scores for participants who were categorized as “flourishing” were significantly higher than the mean scores for participants who were categorized as “moderately mentally healthy.” Likewise, those who were categorized as “moderately mentally healthy” had mean scores that were significantly higher than the mean scores of those who were categorized as “languishing.”

A series of stepwise multiple regression analyses were conducted. These analyses confirmed that academic achievement was not a significant predictor of mental health for males or for females. Results showed that for both males and females, the most significant predictor of mental health was an involvement variable – Supportive Campus Environment (SCE). Supportive Campus Environment predicted nearly 19% of the variance in mental health score for males and nearly 20% of the variance in mental health score for females.

More in-depth analyses were conducted, regressing mental health score on the six items which combine to measure Supportive Campus Environment (SCE). For male students, Quality of Relationships with Faculty was the SCE measure most predictive of mental health score (moderate effect size). For female students, the SCE measure most predictive of mental health score was “Quality of Relationships with Students” (large effect size). The higher the mental health score for males, the more likely they were to have experienced high quality relationships with faculty, finding them to be “available, helpful, and sympathetic” (*The College Student Report*, 2005). The higher the mental health score for females, the more likely they were to have experienced high quality relationships with students, finding them to be “friendly, supportive, and [offering a] sense of belonging” (*The College Student Report*, 2005). These results reflect the themes of multiple college impact studies (Pascarella & Terenzini, 1999, 2005) which demonstrate that men and women frequently engage in and experience college differently.

Chapter V

Conclusions and Interpretations

Overview

The incidence and treatment of mental illness – particularly among students on college campuses – is an issue of concern to mental health practitioners, higher education administrators and faculty, traditional psychology researchers, and the public at large (American Psychological Association, 2003; Benton, Robertson, Tseng, Newton, & Benton, 2003, Crouse, 2003; Ellen, 2002; Franey, 2002; Hallett, 2003; Kadison & DiGeronimo, 2004; Kelly, 2001; Knight, Wechsler, Kuo, Seibring, Weitzman, & Schuckit, 2002; Lamas, 2004; Lite, 2003; Marano, 2002; O’Connor, 2001; Peterson, 2002; Rimer, 2004; Schwartz, 2002; Shy, 2001; Snyder, 2004). As Astin (1993) highlights in his higher education study, *What Matters in College: Four Critical Years Revisited*, there is a notable decline observed during the college years in students’ sense of psychological well-being, yet “the role of the college experience in the students’ . . . sense of psychological well-being is unclear” (p. 397). While the standard approach might be to ask critical questions about dysfunctional students and those factors which have influenced them, the emerging field of **positive psychology** suggests the pursuit of complementary scholarship on healthy, adaptive features of human functioning. There is much to be learned, it is argued, from those who function at high levels – those who are *flourishing* emotionally, psychologically, and socially (Keyes & Haidt, 2003). Empirical research should investigate those factors that distinguish individual students and student communities who thrive, flourish and otherwise function in an optimal way from those with more limited functioning (Lyubromirsky & Abbe, 2003).

At the same time, an abundance of research on college student development (Astin, 1993; Pascarella & Terenzini, 1991, 2005; Pace, 1980) has shown that the time and energy students devote to educationally purposeful activities – their level of *involvement* – is the single best predictor of their learning and personal development. As the Study Group on the Conditions of Excellence in American Higher Education (Schroeder, 1996) reported, “there is now a great deal of research evidence to suggest that the more time and effort students invest in the learning process and the more intensely they engage in their own education, the greater will be their growth and achievement, their satisfaction with their educational experiences, and their persistence in college” (p. 17). Because involvement significantly predicts other positive college outcomes, the current study explored the extent to which student involvement might also predict students’ mental health as defined by Keyes’ (2002, 2005) mental health continuum.

Specifically, this study examined the mental health, involvement, and achievement of traditionally aged undergraduate students (18-23) at a mid-sized, selective, public university in the mid-Atlantic region of the United States (State College). Using Keyes’ (2002, 2005) mental health continuum model, the study identified students who are flourishing and distinguished them from students who are moderately mentally healthy and/or languishing. In addition to examining the prevalence of these three levels of mental health (i.e., flourishing, moderately mentally healthy, and languishing), it also explored the extent to which individual involvement — as defined by Astin (1984, 1985, 1993) and as measured by the National Survey of Student Engagement’s *College Student Report* (NSSE, 2005) — predicts mental health. Gender, parents’ highest level of education, and academic achievement were analyzed as additional independent variables. Due to lack of variability among respondents in terms of race/ethnicity,

analysis using this variable was not attempted.

Keyes' (2002,2005) instrument measured mental health using a Likert-type questionnaire which asked participants' about their subjective sense of personal well-being in three distinct areas: (a) emotional well-being, (b) psychological well-being, and (c) social well-being. The 42 NSSE (2005) *College Student Report* questionnaire items used measured participants' involvement in five benchmark areas of effective educational practice: (a) Academic Challenge, (b) Active/Collaborative Learning, (c) Student/Faculty Interaction, (d) Enriching Educational Experiences, and (e) Supportive Campus Environment.

In this study, the dependent variable (mental health) was considered in two ways – as an ordinal variable (i.e. flourishing, moderate mental healthy, languishing), and as a continuous variable (weighted sum of all items measuring emotional, psychological, and social well-being). Categorically, participants were identified as being flourishing, moderately mentally healthy, or languishing based on Keyes' (2002) diagnostic criteria. Participants with scores in the upper tertiles of one of the two emotional well-being scales, and six of the 11 scales of psychological and social well-being were classified as “flourishing.” Individuals with scores in the lower tertiles of one of the two emotional well-being scales, and six of the 11 scales of psychological and social well-being were classified as “languishing.” Those who did not fall into either category were be classified as “moderately mentally healthy” (p. 212). The continuous variable for mental health was calculated as the sum of all 40 items measuring emotional, psychological, and social well-being, after each individual item was weighted (based on confirmatory factor analysis of Keyes' model). This continuous variable – mental health score – allowed for more sophisticated multiple regression analyses in determining which involvement variables best

predicted mental health.

The following three research questions were addressed:

1. What are the characteristics of a sample of traditionally aged undergraduate students with regard to academic achievement, campus involvement, and mental health?;
2. To what extent is mental health category related to gender, parents' highest level of education, achievement, and involvement among traditionally aged undergraduates?; and
3. To what extent does student involvement predict the variability in mental health among traditionally aged undergraduates?

Summary of Major Findings

The goal of this study was to examine (a) the extent to which each level of mental health exists among traditionally aged undergraduate college students and (b) the possible relationship between mental health, achievement, and college involvement. A summary of answers to the proposed research questions follows.

Question 1

What are the characteristics of a sample of traditionally aged undergraduate students with regard to academic achievement, campus involvement, and mental health?

Data were collected from 534 undergraduate juniors (44% of the 1206 students in the sample), 68.4% of whom were female ($n = 365$) and 31.6% of whom were male ($n = 169$).

Parents' highest level of education was used as a proxy for socioeconomic status. The majority of respondents had parents who had earned a college degree at either the graduate level (62.5%, $n = 334$) or the baccalaureate level (27.5%, $n = 147$). The remaining 9.9% ($n = 53$) had parents' whose highest level of education was less than a BA degree. Race/ethnicity was eliminated from

the study due to lack of variability. Of the 534 respondents, 82.8% ($n = 334$) identified themselves as Caucasian; 4.7% ($n = 25$) as Asian; 3.7% ($n = 20$) as Black, 3.6% ($n = 19$) as Hispanic, and 5.2% ($n = 28$) as Other.

With regard to academic achievement, in this sample there was no significant difference in GPA based on gender ($M = 3.30$ for males, $M = 3.34$ for females). However, GPA did differ significantly based on parents' highest level of education – students whose parents' highest level of education was "Less than BA" had a significantly lower mean GPA ($M = 3.13$) than participants whose parents had earned a BA Degree ($M = 3.34$) or Graduate Degree ($M = 3.35$).

In terms of involvement measures, there was no significant difference based on parents' highest level of education. However, males and females did differ with regard to two of the involvement variables: (a) Level of Academic Challenge, where the mean score was significantly higher for females ($M = 57.7$) than for males ($M = 53.7$), and (b) Supportive Campus Environment, where mean score was also significantly higher for females ($M = 59.1$) than for males ($M = 56.0$).

Based on Keyes' (2002, 2005) mental health continuum model, more than two-thirds of the respondents were classified as being moderately mentally healthy (67.2%), with the remainder being classified on the two extremes of the continuum – flourishing (15.4%) and languishing (17.4%). In addition to classifying respondents by the mental health category, their mental health scores were also calculated as the weighted sum of all 40 well-being items that comprise Keyes' (2002) instrument. There was no significant difference in mean mental health score based on parents' highest level of education. However, the mean mental health score was significantly higher for females ($M = 72.24$) than for males ($M = 70.42$), $p < .05$.

Question 2

To what extent is mental health category related to gender, parents' highest level of education, achievement, and involvement among traditionally aged undergraduates?

All analyses for Question 2 considered mental health as a categorical variable (i.e. flourishing, moderately mentally healthy, languishing). A chi square analysis showed that mental health category is independent of gender. Thus, the proportion of males and females in each of the three mental health categories did not differ significantly. Likewise, students' mental health category proved to be independent of parents' highest level of education, and there were no significant differences in academic achievement among those who are flourishing, moderately mentally healthy, and languishing.

Among the most compelling results are comparisons of involvement means by mental health category. For all five involvement variables – Academic Challenge, Active/Collaborative Learning, Student/Faculty Interaction, Enriching Educational Experiences, and Supportive Campus Environment – the mean involvement scores of those who are “flourishing” were significantly higher than the mean scores of the “moderately mentally healthy,” whose mean scores were significantly higher than those who were “languishing” ($p < .001$ for all comparisons). In fact, with the exception of the mean score for Academic Challenge (AC) which did not differ significantly between those who are “flourishing” and those categorized as “moderately mentally healthy,” post-hoc analyses confirmed that mean involvement score differences were significant between and among all three mental health categories.

Question 3

To what extent does student involvement predict the variability in mental health among traditionally aged undergraduates?

All analyses for Question 3 considered mental health as a continuous variable. The results which are presented in detail in Chapter IV clearly demonstrate that involvement is a significant predictor of undergraduate students' mental health, regardless of gender, parents' highest level of education (socioeconomic level) or academic achievement (GPA). In examining the sample as a whole, four of the five involvement variables combine to significantly predict students' mental health score – Supportive Campus Environment, Enriching Educational Experiences, Active/Collaborative Learning, and Academic Challenge. The only variable not significantly predicting mental health score was Student/Faculty Interaction. For both males and females, Supportive Campus Environment (SCE) was by far the most predictive of mental health score, accounting for nearly 19% of the variance in male students' mental health scores and nearly 20% of the variance in females' mental health scores.

Because we know that college generally affects men and women differently (Pascarella & Terenzini, 1999, 2005), one further analysis was run based on the six individual items on the College Student Report (2005) questionnaire that combine to measure Supportive Campus Environment (SCE). This more in-depth analysis indicated that having supportive interpersonal relationships was most predictive of mental health score for **all** students. However, for males, relationships with supportive faculty were most significant, followed by relationships with peers, while supportive peer relationships were most significant for females, followed by relationships with college administrators. This finding also suggests a possible link between student

development theory and mental health, as one of Chickering and Reisser's (1993) seven vectors of student development is "developing mature interpersonal relationships" (Pascarella & Terenzini, 1991, 2005, p.22). One might infer that those who have successfully progressed through this developmental vector are also the most mentally healthy.

Interpretation of Findings

Who flourishes in college? The four benchmarks for education practice (NSSE, 2005) which significantly predicted mental health in this study – Academic Challenge, Active/Collaborative Learning, Enriching Educational Experiences, and Supportive Campus Environment – provide a useful framework for interpreting these results.

Level of Academic Challenge

Students who flourish (as compared with those who are moderately mentally healthy or languishing) are more likely to report having worked harder than they thought they would to meet faculty expectations; they are regularly prepared for class, they are challenged beyond memorization to analyze, synthesize, evaluate, and apply ideas and experiences; and they experience a campus environment that emphasizes the importance of studying and academics. For them, "challenging intellectual and creative work is central to student learning" (NSSE, 2005). This finding reflects Boyer's (1990) first dimension of the ideal campus community – purposefulness. In an educationally purposeful campus community, he asserts, "learning is pervasive" (p.16). Moreover, the cognitive experiences reported by flourishing students in this study are those at the highest levels of Bloom's (1956) taxonomy of educational objectives, which are application, analysis, synthesis, and evaluation.

Active/Collaborative Learning

Students who flourish are more likely to be actively engaged in the classroom by asking questions and contributing to class discussions. They are more involved in making presentations, working on projects with classmates, and/or integrating service with their academics by tutoring others, or taking part in community-based projects as part of their course work. In addition, they often discuss ideas from readings or class with people outside of the course. Students who flourish work collaboratively with others and “are asked to think about and apply what they are learning in different settings” (NSSE, 2005). The advantages of such engagement are also consistent with Baxter-Magolda (1992) who found that optimal learning for students is a “relational activity,” including opportunities for critical thinking and peer collaboration, for connecting learning to real life, and for engaging actively in the classroom (Evans, Fornery, & Guido-DiBrito, 1998).

Enriching Educational Experiences

Students who flourish report seeking and experiencing “complementary learning opportunities inside and outside the classroom” (NSSE, 2005). They use technology to facilitate learning, and they are more likely to have taken advantage of opportunities such as internships, community service, study abroad, independent study, and co-curricular activities. Such enriching activities contribute to a student’s broader educational experience by “situating learning in the student’s own experience” (Baxter Magolda, 1992, p.378). The findings are also consistent with the student affairs profession’s focus on the development of the *whole* student, and the foundational belief that student learning takes place both in and outside the classroom (Astin, 1984, 1993; Chickering & Reisser, 1993; Komives & Woodward, 1996; Kuh, Schuh, Whitt, &

Associates, 1991; Pascarella & Terenzini, 1991, 2005).

In addition, students who flourish are more likely to report engaging with people who are different from themselves – in terms of race, ethnicity, religion, politics, etc. They experience their institutional climate as one that “encourages contact among students of different economic, social, and racial or ethnic backgrounds” (NSSE, 2005). Gurin (1999) found that students (both white and non-white) who experience the most diversity in classroom settings and in informal interactions with peers show the greatest engagement in active thinking processes, and growth in intellectual and academic skills. The current study affirms that optimal mental health is another benefit significantly related to diversity in the college setting.

Supportive Campus Environment

More than any other involvement variable, this one is most significantly related to mental health for all students in this study. Males who are flourishing report having quality relationships with faculty members who are “available, helpful, and sympathetic” (NSSE, 2005). Also significantly related to males’ mental health is having relationships with peers that are “friendly, supportive, and [who promote] a sense of belonging” (NSSE, 2005). The relationships most significant for females in this study were those with supportive and friendly peers, as well as administrators whom they found to be “helpful, considerate, and flexible” (NSSE, 2005). Students who flourish – males and females alike – are more likely than moderately mentally healthy or languishing students to experience the campus environment as being supportive of their success, both within and outside the classroom.

These findings resonate with Sanford (1967) and other student development theorists (Chickering & Reisser, 1993; Cross, 1995; Helms, 1995; Josselson, 1987, 1996; Kohlberg, 1969,

1981;) who explain how personal growth and change occur when there is an optimal balance of environmental challenges and supports. For such theorists, “whether growth occurs depends on the nature of the individual’s response to the challenge and the level of support received from others for working through that disequilibrium” (Pascarella & Terenzini, 2005, p. 50).

Particularly in a college environment such as State College’s which is highly selective and academically rigorous, it is understandable that Supportive Campus Environment proved to be significantly related to students’ mental health and sense of well-being.

Limitations of the Study

The focus of this study was the relationship between mental health and student involvement. While the results indicate that students’ mental health is indeed significantly related to their level of engagement in the educational process, this research cannot show causality. In other words, it is not possible to know from these results if traditionally aged students flourish as a result of their involvement, or if students who flourish are the ones who choose to be more actively involved.

The study is also affected by the limitations of Keyes’ (2002) mental health continuum model which makes use of “somewhat arbitrary thresholds for symptom level” (p.218) in classifying individuals as flourishing, moderately mentally healthy, or languishing. This limitation was mitigated somewhat by the use of a continuous variable for mental health, calculated with weighted scores based on a confirmatory factor analysis of Keyes’ model. The continuous score allowed for more sophisticated analyses than would be possible using only the three mental health categories. For example, mental health category was shown to be independent of gender in this study; yet, females had a significantly higher mean mental health

score than males. As Keyes (2005) himself has noted, the proposed diagnostic criteria and the validity of the diagnoses warrant further analysis. Another related limitation is that the subjective well-being scales used by Keyes may reflect a bias toward westernized cultures and developed nations.

Finally, this study is limited by the nature of the participants and their institution. Results from the study do not address mental health differences by race/ethnicity, for example, because the sample itself was not sufficiently diverse. Moreover, students at State College – a selective, academically rigorous, and highly residential public institution – may exhibit different patterns of involvement and/or levels of mental health than traditionally aged students attending other kinds of institutions.

Implications for Practice

Astin (1985) argues, “The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement (p. 136). Given the results of this study, it is at least possible, that an increase in student involvement might result in an enhanced sense of students’ well-being, or mental *health*. As noted in the section above, this study cannot claim that increased involvement directly affects and improves the mental health of traditionally aged college students. Nevertheless, knowing the many other ways in which involvement benefits students, college administrators and faculty are urged to expand opportunities and avenues for more deeply engaging students in their education. At the very least more students may be drawn to active engagement; or it could be that more students will flourish as a result.

As NSSE’s (2005) benchmark variables and this study suggest, strategies for higher

education practice should include: (a) creating conditions which allow students to build meaningful, supportive relationships with peers, faculty and administrators; (b) enhancing the level of academic challenge students find on their campuses, and creating a campus culture that values scholarly activity; (c) promoting opportunities and practices which actively engage students in their learning; (d) enriching students' educational experiences, both in and out of class; and (e) championing diversity in the academy and creating a campus environment which supports interactions between and among people different from one another. As Sanford (1967) has asserted, attention should also be paid to the levels of challenge and support in the college environment, for an appropriate balance of challenge and support may be important not only to student development, but to mental health as well.

One implication of this study is simply that it may introduce higher education scholars and practitioners to the philosophy and empirical basis of positive psychology. As "a science that strives to promote flourishing and fulfillment at each of the individual, group, and social levels" (Linley & Joseph, 2004, p. xv), positive psychology is consistent with many of the goals of higher education and student affairs practitioners who work daily to promote the holistic development and academic success of students. Positive psychology in practice addresses such issues as balancing one's time for optimal functioning (Boniwell & Zimbardo, 2004); teaching students to make wise judgements (Reznitskaya & Sternberg, 2004); the importance of values in decision-making, satisfaction with life roles, and goal attainment (Brown & Crace, 1996; Sagiv, Roccas, & Hazan, 2004); and fostering healthy self-regulation (Brown & Ryan, 2004). Moreover, positive psychology scholarship addresses organizational issues which can be applied to the functioning of colleges and universities, including strategies for inspiring intrinsic

motivation, curiosity, and creative thinking (Kashdan & Fincham, 2004); positive and creative organization (Henry, 2004) and balancing individuality and community in public policy (Myers, 2004). An expanded awareness of positive psychology might draw higher education practitioners to explore connections between their specialized professional areas (fundraising, teaching, advising, programming, establishing budget priorities, etc.) and the worthy pursuit of optimal human functioning.

Suggestions for Future Research

The results of this study suggest a number of areas for further research. Given the lack of diversity in the current sample, for example, additional research should examine involvement and mental health dynamics based on students' race/ethnicity. A number of significant college effects have already been shown to vary by race and ethnicity (Pascarella & Terenzini, 1999, 2005). It might also be useful to examine results of similar studies conducted on different kinds of campuses (community college, historically black college or university, large land-grant institution, private college) where student and institutional characteristics might affect student involvement and sense of well-being differently than at a place like State College.

Future research should also include a qualitative investigation of the lived experiences of students – those who flourish, those who are moderately mentally healthy, and those who are languishing. Qualitative methods, with their emphasis on describing, understanding and explaining complex phenomena, would add depth and richness to the data collected in this study.

The results of this study echo many of the themes and theories of student development literature. Yet the sample in this case was specifically limited to junior undergraduates in order to control for maturation effects. Follow-up research might explore the relationships between

involvement, mental health, and student development to see how these constructs and processes might overlap and/or complement one another. As noted earlier, researchers have agreed that longitudinal studies are best in the field of positive psychology, particularly when studying constructs that are developmental in nature (Lazarus, 2003; Peterson & Park, 2003).

Finally, future research should explore new models of mental health if and when they are proposed. Keyes' (2002, 2005) mental health continuum is the first model to define mental *health* as a construct distinct and separate from mental *illness*. As the model's limitations are addressed by Keyes and by others, follow-up studies should continue to examine the mental health of college students and the factors that contribute to their emotional and functional well-being.

Conclusion

This study was exploratory and correlational, not experimental, in nature. Certainly higher education literature is replete with studies affirming the benefits of students' active engagement – their involvement – in educational experiences (Astin, 1984, 1993; Chickering & Reisser, 1993; Goodsell, Maher, & Tinto, 1992; Kuh, Schuh, Whitt, & Associates, 1991; Pascarella & Terenzini, 1991, 2005; Sorcinelli, 1991; Tinto, 1993). At the same time, the concept of mental *health* as distinct and separate from mental *illness* is a relatively new paradigm (Keyes, 2002, 2005; Keyes & Haidt, 2003) for which there is a limited literature base, particularly with regard to individuals aged 18-23. This study brought together in a unique way (a) foundational constructs in our understandings of undergraduates and the impact of college on students, with (b) a newly proposed model of mental health, one which has never been applied to a college population and which reflects an emerging academic discipline – positive psychology

(Fish, 2005; Goldberg, 2006; Seligman, Steen, Park, & Peterson, 2005).

That such significant relationships were found between students' mental health and the extent to which they are engaged in their broad educational experience is indeed noteworthy – and especially so, as these relationships appear to be independent of students' gender, parents' highest level of education (SES), and academic achievement. The results of this study suggest that students who flourish may be those most likely to be involved, or perhaps that students actually flourish *because* of their involvement and engagement in the educational experience. Further research should examine more closely those factors which are related to and which could better promote optimal mental health among students on our campuses.

Web-Based Questionnaire for Ambler Dissertation

**Note: All references which might identify "State College"
have been removed to preserve anonymity*

APPENDIX A

Virginia M. Ambler -- Dissertation Site | Ambler

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Virginia M. Ambler -- Dissertation Site[Ambler HOME](#)

**Thank you for your willingness to participate in this study!
Remember to allow 10-15 minutes to complete the questionnaire, as all the
items must be answered in one sitting.**

Please read the following before proceeding:

The general nature of this dissertation research project, "Who Flourishes in College? Using Positive Psychology and Student Involvement Theory to Explore Mental Health Among Traditional Aged Undergraduates," conducted by Virginia M. Ambler has been explained to me. I understand that I will be asked to complete a web-based questionnaire about my in- and out-of-class campus involvement and my overall sense of well-being. I further understand that my responses will be confidential and that no reference will be made in any oral or written report that would link me individually to the study. I know that I may refuse to answer any question asked and that I may discontinue participation at any time. I am aware that I may report dissatisfactions with any aspect of this study to the Chair of the Protection of Human Subjects Committee, Dr. [REDACTED] at [REDACTED]. I am also aware that I must be at least 18 years of age to participate. By logging in on the following web page with my [REDACTED] Username and password, I signify my voluntary participation in this project and acknowledge that I have received a copy of this consent statement.

 **[Click Here to Begin!](#)**

This project was found to comply with appropriate ethical standards and was exempted from the need for formal review by the [REDACTED] Protection of Human Subjects Committee (phone 757-221-3901) on December 26, 2005 and expires on January 31, 2006.

© Virginia Miller Ambler, January 2006

<http://www.wm.edu/studentaffairs/amblerdissertation/>

4/19/2006

Virginia M. Ambler -- Dissertation Site

Ambler HOME

Please answer each of the questions on this site as best you can. There are 6 general questions at the beginning of the survey, 42 items about college experiences, and then 40 items related to personal well-being. The whole questionnaire should not take more than 10-15 minutes to complete. Your participation in my study is so appreciated!

What is your age?

Select

What is your sex?

Select

What is your racial or ethnic identification?

Select

Please indicate the highest level of education attained by either of your parents:

Select

Please type in your cumulative Grade Point Average (GPA)

What is your primary major (if you are undeclared, please select your probable major)?

Select

The following questions (#1 to #42) ask about your involvement in various aspects of the college experience:

In your experience at during the current school year, about how often have you done each of the following?

1. Asked questions in class or

contributed to a class discussion	Very often	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
2. Made a class presentation	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
3. Worked with other students on projects during class	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
4. Worked with students outside of class to prepare class assignments	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
5. Tutored or taught other students (paid or voluntary)	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
6. Participated in a community-based project (e.g. service learning) as part of a regular course	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
7. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
8. Discussed grades or an assignment with an instructor	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
9. Talked about career plans with a faculty member or advisor	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
10. Discussed ideas from your readings or classes with faculty members outside of class	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
11. Received prompt feedback from faculty on your academic performance (written or oral)	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
12. Worked harder than you thought you could to meet an instructor's standards or expectations	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
13. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	Very often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Often	Sometimes	Never	
14. Discussed ideas from your readings or classes with others outside of class	Very	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- (students, family members, co-workers, etc)
- often Often Sometimes Never
15. Had serious conversations with students of a different race or ethnicity than your own. Very often Often Sometimes Never
16. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values Very often Often Sometimes Never

During the current school year, how much has your coursework emphasized the following mental activities?

17. Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components Very much Quite a bit Some Very little
18. Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships Very much Quite a bit Some Very little
19. Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions Very much Quite a bit Some Very little
20. Applying theories or concepts to practical problems or in new situations Very much Quite a bit Some Very little

During the current academic year, about how much reading and writing have you done?

21. Number of assigned textbooks, books, or book-length packs of course readings None Between 1 and 4 Between 5 and 10 Between 11 and 20 More than 20
22. Number of written papers or reports 20 pages or more None Between 1 and 4 Between 5 and 10 Between 11 and 20 More than 20
23. Number of written papers or None Between Between Between More

reports between 5 and 19 pages 1 and 4 5 and 10 11 and 20 than 20

24. Number of written papers or reports of fewer than 5 pages None Between 1 and 4 Between 5 and 10 Between 11 and 20 More than 20

Which of the following have you done or do you plan to do before you graduate from _____?

- 25. Practicum, internship, field experience, co-op experience, or clinical assignment Done Plan to do Do not plan to do Have not decided
- 26. Community service or volunteer work Done Plan to do Do not plan to do Have not decided
- 27. Participate in a learning community or some other formal program where groups of students take two or more classes together Done Plan to do Do not plan to do Have not decided
- 28. Work on a research project with a faculty member outside of course or program requirements Done Plan to do Do not plan to do Have not decided
- 29. Foreign language coursework Done Plan to do Do not plan to do Have not decided
- 30. Study abroad Done Plan to do Do not plan to do Have not decided
- 31. Independent study or self-designed major Done Plan to do Do not plan to do Have not decided
- 32. Culminating senior experience (capstone course, thesis, project, comprehensive exam) Done Plan to do Do not plan to do Have not decided

On a scale of 7 to 1, mark the circle which best represents the quality of your relationships with people at _____ (students, faculty, administrative personnel).

	Friendly, supportive, sense of belonging					Unfriendly, unsupportive, sense of alienation	
33. Other Students	<input type="radio"/> 7	<input type="radio"/> 6	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
	Available, helpful, sympathetic					Unavailable, unhelpful, unsympathetic	
34. Faculty members	<input type="radio"/> 7	<input type="radio"/> 6	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
	Helpful, considerate, and flexible					Unhelpful, inconsiderate, and rigid	
35. Administrative personnel and offices	<input type="radio"/> 7	<input type="radio"/> 6	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1

About how many hours a week do you spend in a typical 7-day week doing each of the following?

36. Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities?)

37. Participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, intercollegiate or intramural sports, etc.)

To what extent does [redacted] emphasize each of the following?

38. Spending significant amounts of time studying and on academic work

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Very much	Quite a bit	Some	Very little

39. Providing the support you need to help

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Very	Quite	Some	Very

you succeed academically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Very much	Quite a bit	Some	Very little
40. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Very much	Quite a bit	Some	Very little
41. Helping you cope with your non-academic responsibilities (work, family, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Very much	Quite a bit	Some	Very little
42. Providing the support you need to thrive socially	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Very much	Quite a bit	Some	Very little

© National Survey of Student Engagement 2005, *College Student Report*

You're almost done! These FINAL items (# 43 to # 82) ask about your general sense of well-being:

During the past 30 days, how much of the time did you feel . . .

43. . . . cheerful?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	All the time	Most of the time	Some of the time	A little of the time	None of the time
44. . . . in good spirits?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	All the time	Most of the time	Some of the time	A little of the time	None of the time
45. . . . extremely happy?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	All the time	Most of the time	Some of the time	A little of the time	None of the time
46. . . . calm and peaceful?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	All the time	Most of the time	Some of the time	A little of the time	None of the time
47. . . . satisfied?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	All the time	Most of the time	Some of the time	A little of the time	None of the time
48. . . . full of life?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	All the time	Most of the time	Some of the time	A little of the time	None of the time

49. Using a scale from 0 to 10 where 0 means "the worst possible life overall" and 10 means "the best possible life overall," how would you rate your overall life these days?

Worst

Best

0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10

Please indicate how strongly you agree or disagree with each of the following statements.

50. I like most parts of my personality.

Agree Strongly
 Agree Somewhat
 Agree a Little
 Don't Know
 Disagree a Little
 Disagree Somewhat
 Disagree Strongly

51. When I look at the story of my life, I am pleased with how things have turned out so far.

Agree Strongly
 Agree Somewhat
 Agree a Little
 Don't Know
 Disagree a Little
 Disagree Somewhat
 Disagree Strongly

52. Some people wander aimlessly through life, but I am not one of them.

Agree Strongly
 Agree Somewhat
 Agree a Little
 Don't Know
 Disagree a Little
 Disagree Somewhat
 Disagree Strongly

53. The demands of everyday life often get me down.

Agree Strongly
 Agree Somewhat
 Agree a Little
 Don't Know
 Disagree a Little
 Disagree Somewhat
 Disagree Strongly

54. In many ways I feel disappointed about my achievements in life.

Agree Strongly
 Agree Somewhat
 Agree a Little
 Don't Know
 Disagree a Little
 Disagree Somewhat
 Disagree Strongly

55. Maintaining close relationships has been difficult and frustrating for me.

Agree Strongly
 Agree Somewhat
 Agree a Little
 Don't Know
 Disagree a Little
 Disagree Somewhat
 Disagree Strongly

56. I live life

one day at a time and don't really think about the future.	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
57. In general, I feel I am in charge of the situation in which I live.	<input checked="" type="radio"/> Agree Strongly	<input type="radio"/> Agree Somewhat	<input type="radio"/> Agree a Little	<input type="radio"/> Don't Know	<input type="radio"/> Disagree a Little	<input type="radio"/> Disagree Somewhat	<input type="radio"/> Disagree Strongly
58. I am good at managing the responsibilities of daily life.	<input checked="" type="radio"/> Agree Strongly	<input type="radio"/> Agree Somewhat	<input type="radio"/> Agree a Little	<input type="radio"/> Don't Know	<input type="radio"/> Disagree a Little	<input type="radio"/> Disagree Somewhat	<input type="radio"/> Disagree Strongly
59. I sometimes feel I've done all there is to do in life.	<input checked="" type="radio"/> Agree Strongly	<input type="radio"/> Agree Somewhat	<input type="radio"/> Agree a Little	<input type="radio"/> Don't Know	<input type="radio"/> Disagree a Little	<input type="radio"/> Disagree Somewhat	<input type="radio"/> Disagree Strongly
60. For me, life has been a continuous process of learning, changing, and growth.	<input checked="" type="radio"/> Agree Strongly	<input type="radio"/> Agree Somewhat	<input type="radio"/> Agree a Little	<input type="radio"/> Don't Know	<input type="radio"/> Disagree a Little	<input type="radio"/> Disagree Somewhat	<input type="radio"/> Disagree Strongly
61. I think it is important to have new experiences that challenge how I think about myself and the world.	<input checked="" type="radio"/> Agree Strongly	<input type="radio"/> Agree Somewhat	<input type="radio"/> Agree a Little	<input type="radio"/> Don't Know	<input type="radio"/> Disagree a Little	<input type="radio"/> Disagree Somewhat	<input type="radio"/> Disagree Strongly
62. People would describe me as a giving person, willing to share my time with others.	<input checked="" type="radio"/> Agree Strongly	<input type="radio"/> Agree Somewhat	<input type="radio"/> Agree a Little	<input type="radio"/> Don't Know	<input type="radio"/> Disagree a Little	<input type="radio"/> Disagree Somewhat	<input type="radio"/> Disagree Strongly
63. I gave up trying to make	<input checked="" type="radio"/> Agree	<input type="radio"/> Agree	<input type="radio"/> Agree	<input type="radio"/> Don't	<input type="radio"/> Disagree	<input type="radio"/> Disagree	<input type="radio"/> Disagree

big improvements or changes in my life a long time ago.

Strongly Somewhat a Little Know a Little Somewhat Strongly

64. I tend to be influenced by people with strong opinions.

Agree Strongly Agree Somewhat Agree a Little Don't Know Disagree a Little Disagree Somewhat Disagree Strongly

65. I have not experienced many warm and trusting relationships with others.

Agree Strongly Agree Somewhat Agree a Little Don't Know Disagree a Little Disagree Somewhat Disagree Strongly

66. I have confidence in my own opinions, even if they are different from the way most other people think.

Agree Strongly Agree Somewhat Agree a Little Don't Know Disagree a Little Disagree Somewhat Disagree Strongly

67. I judge myself by what I think is important, not by the values of what others think is important.

Agree Strongly Agree Somewhat Agree a Little Don't Know Disagree a Little Disagree Somewhat Disagree Strongly

68. The world is too complex for me.

Agree Strongly Agree Somewhat Agree a Little Don't Know Disagree a Little Disagree Somewhat Disagree Strongly

69. I don't feel I belong to anything I'd call a community.

Agree Strongly Agree Somewhat Agree a Little Don't Know Disagree a Little Disagree Somewhat Disagree Strongly

70. People who do a favor expect nothing

Agree Strongly Agree Somewhat Agree a Little Don't Know Disagree a Little Disagree Somewhat Disagree Strongly

				Little			
in return.							
71. I have something valuable to give to the world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
72. The world is becoming a better place for everyone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
73. I feel close to other people in my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
74. My daily activities do not create anything worthwhile for my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
75. I cannot make sense of what's going on in the world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
76. Society has stopped making progress.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
77. People do not care about other people's problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
78. My community is a source of comfort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly
79. I try to think about and understand what could	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly

happen next in our country.

80. Society isn't improving for people like me.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly	

81. I believe that people are kind.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly	

82. I have nothing important to contribute to society.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agree Strongly	Agree Somewhat	Agree a Little	Don't Know	Disagree a Little	Disagree Somewhat	Disagree Strongly	

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(Optional)
If you would like to receive the results of this dissertation research, please type in your email address:

Email Address



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Virginia M. Ambler -- Dissertation Site

Ambler HOME

● Thank you so much for taking part in this study!

If you submitted your email address at the end of the questionnaire, I will be happy to share the results of my dissertation research with you. In the meantime, please feel free to contact me with any questions at 757-221-1234 (vmaml@wm.edu). Also, if completing any of the items on the questionnaire raised particular issues or concerns for you with regard to your personal well-being, please know that the Counseling Center on campus is a resource available to you by calling [REDACTED]

Best wishes and sincere thanks -- [REDACTED]

Sincerely,
Ginger Ambler

[REDACTED]
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The 2005 College Student Report
National Survey of Student Engagement

APPENDIX B

BENCHMARKS OF EFFECTIVE EDUCATIONAL PRACTICE

C hallenging intellectual and creative work is central to student learning and collegiate quality. Colleges and universities promote high levels of student achievement by emphasizing the importance of academic effort and setting high expectations for student performance. Activities and conditions:

Preparing for class (studying, reading, writing, rehearsing, and other activities related to your academic program)

Worked harder than you thought you could to meet an instructor's standards or expectations

Number of assigned textbooks, books, or book-length packs of course readings

Number of written papers or reports of 20 pages or more

Number of written papers or reports between 5 and 19 pages

Number of written papers or reports fewer than 5 pages

Coursework emphasizes: Analyzing the basic elements of an idea, experience or theory

Coursework emphasizes: Synthesizing and organizing ideas, information, or experiences

Coursework emphasizes: Making judgments about the value of information, arguments, or methods

Coursework emphasizes: Applying theories or concepts to practical problems or in new situations

Campus environment emphasizes spending significant amounts of time studying and on academic work

S tudents see first-hand how experts think about and solve practical problems by interacting with faculty members inside and outside the classroom. As a result, their teachers become role models, mentors, and guides for continuous, life-long learning. Activities:

Discussed grades or assignments with an instructor

Talked about career plans with a faculty member or advisor

Discussed ideas from your reading or classes with faculty members outside of class

Worked with faculty members on activities other than coursework (committees, orientation, student-life activities, etc.)

Received prompt feedback from faculty on your academic performance

Worked with a faculty member on a research project

S tudents perform better and are more satisfied at colleges that are committed to their success and cultivate positive working and social relations among different groups on campus. Conditions:

Campus environment provides support you need to help you succeed academically

Campus environment helps you cope with your non-academic responsibilities (work, family, etc.)

Campus environment provides the support you need to thrive socially

Quality of relationships with other students

Quality of relationships with faculty members

Quality of relationships with administrative personnel and offices

The benchmarks are based on 42 key questions from the NSSE survey that capture many of the most important aspects of the student experience. These student behaviors and institutional features are some of the more powerful contributors to learning and personal development.

S tudents learn more when they are intensely involved in their education and are asked to think about and apply what they are learning in different settings. Collaborating with others in solving problems or mastering difficult material prepares students to deal with the messy, unscripted problems they will encounter daily during and after college. Activities:

Asked questions in class or contributed to class discussions

Made a class presentation

Worked with other students on projects during class

Worked with classmates outside of class to prepare class assignments

Tutored or taught other students

Participated in a community-based project as part of a regular course

Discussed ideas from your reading or classes with others outside of class (students, family members, co-workers, etc.)

C omplementary learning opportunities inside and outside the classroom augment the academic program. Experiencing diversity teaches students valuable things about themselves and other cultures. Used appropriately, technology facilitates learning and promotes collaboration between peers and instructors. Internships, community service, and senior capstone courses provide students with opportunities to synthesize, integrate, and apply their knowledge. Such experiences make learning more meaningful and, ultimately, more useful because what students know becomes a part of who they are. Activities and conditions:

Talking with students with different religious beliefs, political opinions, or values

Talking with students of a different race or ethnicity

An institutional climate that encourages contact among students from different economic, social, and racial or ethnic backgrounds

Using electronic technology to discuss or complete assignments

Participating in:

- Internships or field experiences
- Community service or volunteer work
- Foreign language coursework
- Study abroad
- Independent study or self-designed major
- Culminating senior experience
- Co-curricular activities
- Learning communities



National Survey of Student Engagement 2005

The College Student Report

1 In your experience at your institution during the current school year, about how often have you done each of the following? Mark your answers in the boxes. Examples: or

	Very often	Often	Some-times	Never
a. Asked questions in class or contributed to class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Made a class presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Prepared two or more drafts of a paper or assignment before turning it in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Worked on a paper or project that required integrating ideas or information from various sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Come to class without completing readings or assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Worked with other students on projects during class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Worked with classmates outside of class to prepare class assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Put together ideas or concepts from different courses when completing assignments or during class discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Tutored or taught other students (paid or voluntary)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Participated in a community-based project (e.g., service learning) as part of a regular course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Used e-mail to communicate with an instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Discussed grades or assignments with an instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Talked about career plans with a faculty member or advisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. Discussed ideas from your readings or classes with faculty members outside of class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. Received prompt feedback from faculty on your academic performance (written or oral)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Very often	Often	Some-times	Never
r. Worked harder than you thought you could to meet an instructor's standards or expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u. Had serious conversations with students of a different race or ethnicity than your own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 During the current school year, how much has your coursework emphasized the following mental activities?

	Very much	Quite a bit	Some	Very little
a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Applying theories or concepts to practical problems or in new situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3 During the current school year, about how much reading and writing have you done?

	None	Between 1 and 4	Between 5 and 10	Between 11 and 20	More than 20
a. Number of assigned textbooks, books, or book-length packs of course readings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Number of written papers or reports of 20 pages or more	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Number of written papers or reports between 5 and 19 pages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Number of written papers or reports of fewer than 5 pages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4 In a typical week, how many homework problem sets do you complete?

	None	1-2	3-4	5-6	More than 6
a. Number of problem sets that take you more than an hour to complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Number of problem sets that take you less than an hour to complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5 Mark the box that best represents the extent to which your examinations during the current school year have challenged you to do your best work.

Very little						Very much
1	2	3	4	5	6	7
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6 During the current school year, about how often have you done each of the following?

	Very often	Often	Sometimes	Never
a. Attended an art exhibit, gallery, play, dance, or other theater performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Exercised or participated in physical fitness activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Examined the strengths and weaknesses of your own views on a topic or issue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Learned something that changed the way you understand an issue or concept	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

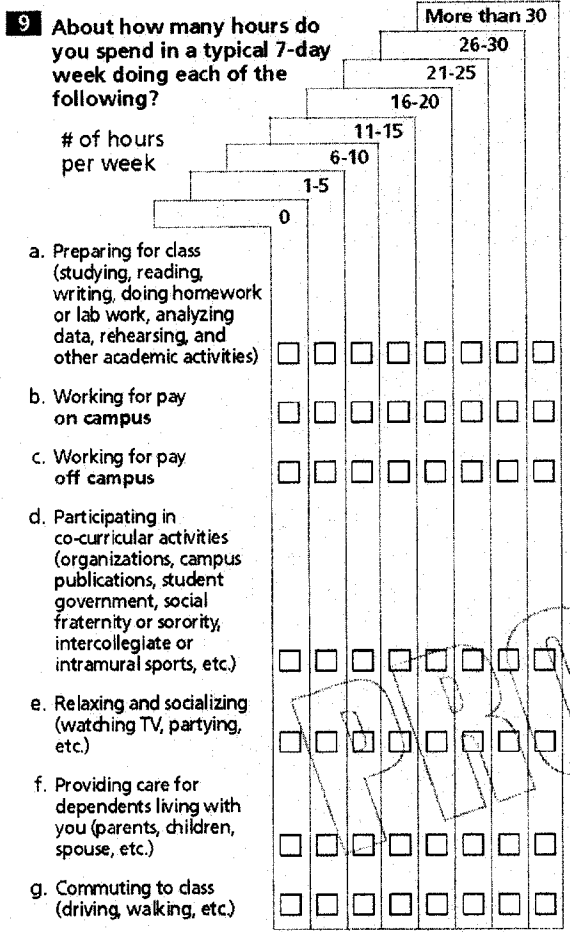
7 Which of the following have you done or do you plan to do before you graduate from your institution?

	Done	Plan to do	Do not plan to do	Have not decided
a. Practicum, internship, field experience, co-op experience, or clinical assignment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Community service or volunteer work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Participate in a learning community or some other formal program where groups of students take two or more classes together	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Work on a research project with a faculty member outside of course or program requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Foreign language coursework	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Study abroad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Independent study or self-designed major	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Culminating senior experience (capstone course, thesis, project, comprehensive exam, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8 Mark the box that best represents the quality of your relationships with people at your institution.

Relationships with:

a. Other Students	b. Faculty Members	c. Administrative Personnel and Offices
Friendly, Supportive, Sense of Belonging	Available, Helpful, Sympathetic	Helpful, Considerate, Flexible
7 <input type="checkbox"/>	7 <input type="checkbox"/>	7 <input type="checkbox"/>
6 <input type="checkbox"/>	6 <input type="checkbox"/>	6 <input type="checkbox"/>
5 <input type="checkbox"/>	5 <input type="checkbox"/>	5 <input type="checkbox"/>
4 <input type="checkbox"/>	4 <input type="checkbox"/>	4 <input type="checkbox"/>
3 <input type="checkbox"/>	3 <input type="checkbox"/>	3 <input type="checkbox"/>
2 <input type="checkbox"/>	2 <input type="checkbox"/>	2 <input type="checkbox"/>
1 <input type="checkbox"/>	1 <input type="checkbox"/>	1 <input type="checkbox"/>
Unfriendly, Unsupportive, Sense of Alienation	Unavailable, Unhelpful, Unsympathetic	Unhelpful, Inconsiderate, Rigid



10 To what extent does your institution emphasize each of the following?

	Very much	Quite a bit	Some	Very little
a. Spending significant amounts of time studying and on academic work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Providing the support you need to help you succeed academically	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Helping you cope with your non-academic responsibilities (work, family, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Providing the support you need to thrive socially	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Attending campus events and activities (special speakers, cultural performances, athletic events, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Using computers in academic work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11 To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
a. Acquiring a broad general education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Acquiring job or work-related knowledge and skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Writing clearly and effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Speaking clearly and effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Thinking critically and analytically	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Analyzing quantitative problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Using computing and information technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Working effectively with others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Voting in local, state, or national elections	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Learning effectively on your own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Understanding yourself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Understanding people of other racial and ethnic backgrounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Solving complex real-world problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Developing a personal code of values and ethics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Contributing to the welfare of your community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. Developing a deepened sense of spirituality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12 Overall, how would you evaluate the quality of academic advising you have received at your institution?

- Excellent
- Good
- Fair
- Poor

13 How would you evaluate your entire educational experience at this institution?

- Excellent
- Good
- Fair
- Poor

14 If you could start over again, would you go to the same institution you are now attending?

- Definitely yes
- Probably yes
- Probably no
- Definitely no

15 Write in your year of birth:

16 Your sex
 Male Female

17 Are you an international student or foreign national?
 Yes No

18 What is your racial or ethnic identification? (Mark only one.)
 American Indian or other Native American
 Asian American or Pacific Islander
 Black or African American
 White (non-Hispanic)
 Mexican or Mexican American
 Puerto Rican
 Other Hispanic or Latino
 Multiracial
 Other
 I prefer not to respond

19 What is your current classification in college?
 Freshman/first-year Senior
 Sophomore Unclassified
 Junior

20 Did you begin college at your current institution or elsewhere?
 Started here Started elsewhere

21 Since graduating from high school, which of the following types of schools have you attended other than the one you are attending now? (Mark all that apply.)
 Vocational or technical school
 Community or junior college
 4-year college other than this one
 None
 Other, specify: _____

22 Thinking about this current academic term, how would you characterize your enrollment?
 Full-time Less than full-time

23 Are you a member of a social fraternity or sorority?
 Yes No

24 Are you a student-athlete on a team sponsored by your institution's athletics department?
 Yes No (go to question 25)

↓
 On what team(s) are you an athlete (e.g., football, swimming)? Please answer below:

25 What have most of your grades been up to now at this institution?
 A B+ C+
 A- B C
 B- C- or lower

26 Which of the following best describes where you are living now while attending college?
 Dormitory or other campus housing (not fraternity/sorority house)
 Residence (house, apartment, etc.) within walking distance of the institution
 Residence (house, apartment, etc.) within driving distance
 Fraternity or sorority house

27 What is the highest level of education that your parent(s) completed? (Mark one box per column.)

	Father	Mother	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did not finish high school
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Graduated from high school
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Attended college but did not complete degree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completed an associate's degree (A.A., A.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completed a bachelor's degree (B.A., B.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completed a master's degree (M.A., M.S., etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Completed a doctoral degree (Ph.D., J.D., M.D., etc.)

28 Please print your primary major or your expected primary major.

29 If applicable, please print your second major or your expected second major (not minor, concentration, etc.).

THANKS FOR SHARING YOUR VIEWS!

After completing the survey, please put it in the enclosed postage-paid envelope and deposit it in any U.S. Postal Service mailbox. Questions or comments? Contact the National Survey of Student Engagement, Indiana University, 1900 East Tenth Street, Eigenmann Hall Suite 419, Bloomington IN 47406-7512 or nssse@indiana.edu or www.iub.edu/nssse. Copyright © 2004 Indiana University.

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**Keyes' Well-Being Scales
(Emotional, Psychological, Social)**

APPENDIX C

**Mental Health Scales of Subjective Well-Being
(Keyes, 2002)**

Emotional Well-Being Scale

EWB1. During the past 30 days, how much of the time did you feel...

	ALL THE TIME	MOST OF THE TIME	SOME OF THE TIME	A LITTLE OF THE TIME	NONE OF THE TIME
a. ...cheerful?	1	2	3	4	5
b. ...in good spirits?	1	2	3	4	5
c. ...extremely happy?	1	2	3	4	5
d. ...calm and peaceful?	1	2	3	4	5
e. ...satisfied?	1	2	3	4	5
f. ...full of life?	1	2	3	4	5

EWB2. Using a scale from 0 to 10 where 0 means "the worst possible life overall" and 10 means "the best possible life overall," how would you rate your life overall these days?

WORST											BEST
0	1	2	3	4	5	6	7	8	9	10	

Psychological Well-Being Scale

PWB. Please indicate how strongly you agree or disagree with each of the following statements.

	AGREE				DISAGREE		
	STRONGLY	SOME WHAT	A LITTLE	DON'T KNOW	A LITTLE	SOME WHAT	STRONGLY
1. I like most parts of my personality	1	2	3	4	5	6	7
2. When I look at the story of my life, I am pleased with how things have turned out so far.	1	2	3	4	5	6	7
3. Some people wander aimlessly through life, but I am not one of them	1	2	3	4	5	6	7
4. The demands of everyday life often get me down	1	2	3	4	5	6	7
5. In many ways I feel disappointed about my achievements in life	1	2	3	4	5	6	7
6. Maintaining close relationships has been difficult and frustrating for me	1	2	3	4	5	6	7
7. I live life one day at a time and don't really think about the future	1	2	3	4	5	6	7
8. In general, I feel I am in charge of the situation in which I live	1	2	3	4	5	6	7
9. I am good at managing the responsibilities of daily life	1	2	3	4	5	6	7
10. I sometimes feel as if I've done all there is to do in life.	1	2	3	4	5	6	7
11. For me, life has been a continuous process of learning, changing, and growth	1	2	3	4	5	6	7
12. I think it is important to have new experiences that challenge how I think about myself and the world	1	2	3	4	5	6	7
13. People would describe me as a giving person, willing to share my time with others.	1	2	3	4	5	6	7

Page 2 of 7

(PWB continued)

	AGREE				DISAGREE		
	STRONGLY	SOME WHAT	A LITTLE	DON'T KNOW	A LITTLE	SOME WHAT	STRONGLY
14. I gave up trying to make big improvements or changes in my life a long time ago	1	2	3	4	5	6	7
15. I tend to be influenced by people with strong opinions	1	2	3	4	5	6	7
16. I have not experienced many warm and trusting relationships with others	1	2	3	4	5	6	7
17. I have confidence in my own opinions, even if they are different from the way most other people think	1	2	3	4	5	6	7
18. I judge myself by what I think is important, not by the values of what others think is important.	1	2	3	4	5	6	7

Social Well-Being Scale

SWB. Please indicate how strongly you agree or disagree with each of the following statements.

	AGREE				DISAGREE		
	STRONGLY	SOME WHAT	A LITTLE	DON'T KNOW	A LITTLE	SOME WHAT	STRONGLY
1. The world is too complex for me.	1	2	3	4	5	6	7
2. I don't feel I belong to anything I'd call a community.	1	2	3	4	5	6	7
3. People who do a favor expect nothing in return.	1	2	3	4	5	6	7
4. I have something valuable to give the world.	1	2	3	4	5	6	7
5. The world is becoming a better place for everyone.	1	2	3	4	5	6	7
6. I feel close to other people in my community.	1	2	3	4	5	6	7
7. My daily activities do not create anything worthwhile for my community.	1	2	3	4	5	6	7
8. I cannot make sense of what's going on in the world.	1	2	3	4	5	6	7
9. Society has stopped making progress.	1	2	3	4	5	6	7
10. People do not care about other people's problems.	1	2	3	4	5	6	7
11. My community is a source of comfort.	1	2	3	4	5	6	7
12. I try to think about and understand what could happen next in our country.	1	2	3	4	5	6	7
13. Society isn't improving for people like me.	1	2	3	4	5	6	7
14. I believe that people are kind.	1	2	3	4	5	6	7
15. I have nothing important to contribute to society.	1	2	3	4	5	6	7

Page 4 of 7

Scoring Instructions for Subjective Well-Being Scales:

By Corey L. M. Keyes, Emory University and the MIDMAC (Successful Midlife Development) MacArthur Foundation Network.

Emotional well-being:

Positive Affect scale = Reverse code items EWB1a through EWB1f, then sum items.

Psychological well-being (section PWB items):

(Reverse code the following items: 1, 2, 3, 8, 9, 11, 12, 13, 17, 18)

Self-Acceptance scale = sum items 1, 2, 5.

Purpose in Life scale = sum items 3, 7, 10.

Environmental Mastery scale = sum items 4, 8, 9.

Positive Relations with Others scale = sum items 6, 13, 16.

Personal Growth scale = sum items 11, 12, 14.

Autonomy scale = sum items 15, 17, 18.

Social well-being (section SWB items):

(Reverse code the following items: 3, 4, 5, 6, 11, 12, 14)

Social Coherence scale = sum items 1, 8, 12.

Social Integration scale = sum items 2, 6, 11.

Social Acceptance scale = sum items 3, 10, 14.

Social Contribution scale = sum items 4, 7, 15.

Social Actualization scale = sum items 5, 9, 13.

Citations:

Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly*, 61, 121-140.

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, 43, 207-222.

Keyes, C. L. M. (2003a). Promoting a life worth living: Human development from the vantage points of mental illness and mental health. In R. M. Lerner, F. Jacobs, & D. Wertlieb (Eds.), *Promoting Positive Child, Adolescent, and Family Development: A Handbook of Program and Policy Innovations, Vol. 4* (pp. 257-274). Thousand Oaks, CA: Sage.

Keyes, C. L. M. (2003b). Complete mental health: An agenda for the 21st century. In

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Table 1. DSM-Type Categorical Diagnosis of Mental Health (i.e., *Flourishing*). Based on Keyes (2002; 2003a; 2003b).

Diagnostic Criteria and Symptom Descriptions
<p>I. <i>Hedonia</i>: Requires high level on at least 1 symptom scale.</p> <ol style="list-style-type: none"> 1) Regularly cheerful, in good spirits, happy, calm and peaceful, satisfied, and full of life (<i>Positive Affect past 30 days</i>). 2) Feels genuine sense of happiness about life overall or domains of life, or feels content or satisfied with life overall or in life domains (<i>Avowed Happiness or Avowed Life Satisfaction</i>). <p>*Life domains may include employment or work, marriage or close interpersonal relationship, parenting, etc.</p>
<p>II. <i>Positive Functioning</i>: Requires high level on 6 or more symptom scales.</p> <ol style="list-style-type: none"> 3) Holds positive attitudes towards oneself and past life, and concedes and accepts varied aspects of self (<i>Self-Acceptance</i>). 4) Shows insight into own potential, sense of development, and open to new and challenging experiences (<i>Personal Growth</i>). 5) Holds goals and beliefs that affirm sense of direction in life, and feels life has purpose and meaning (<i>Purpose in Life</i>). 6) Exhibits capability to manage complex environment, and can choose or manage and mold environs to suit needs (<i>Environmental Mastery</i>). 7) Exhibits self-direction that is often guided by own, and socially accepted or conventional internal standards, resists unsavory social pressures (<i>Autonomy</i>). 8) Has warm, satisfying, trusting personal relationships, and is capable of empathy and intimacy (<i>Positive Relations with Others</i>). 9) Feels that one's life is useful to society and the output of own activities are valued by or valuable to others (<i>Social Contribution</i>). 10) Interested in society or social life, feels society and culture are intelligible, somewhat logical, predictable, and meaningful (<i>Social Coherence</i>). 11) Has positive attitude toward others while acknowledging and accepting people's differences and complexity (<i>Social Acceptance</i>). 12) Has a sense of belonging to a community, and derives comfort and support from community (<i>Social Integration</i>). 13) Believes that people, social groups, and society have potential and can evolve or grow positively (<i>Social Actualization</i>).

APPENDIX D

Subjective Well-Being Scale Item Weights based on Confirmatory Factor Analysis
based on Keyes' (2002, 2005) Mental Health Continuum Model

Emotional Well-Being (EWB), Psychological Well-Being (PWB), Social Well-Being (SWB)

ITEM	Weight	ITEM	Weight
EWB1a	.04	PWB14	.01
EWB1b	.038	PWB15	.004
EWB1c	.019	PWB16	.047
EWB1d	.006	PWB17	.024
EWB1e	.01	PWB18	.023
EWB1f	.018	SWB1	.019
EWB2	.06	SWB2	.014
PWB1	.133	SWB3	.003
PWB2	.108	SWB4	.045
PWB3	.063	SWB5	.008
PWB4	.037	SWB6	.024
PWB5	.073	SWB7	.014
PWB6	.041	SWB8	.011
PWB7	-.011	SWB9	.012
PWB8	.044	SWB10	.011
PWB9	.069	SWB11	.018
PWB10	.004	SWB12	.003
PWB11	.07	SWB13	.018
PWB12	.036	SWB14	.024
PWB13	.022	SWB15	.058

APPENDIX E
Letters of Approval

Page 1 of 1

Ginger Ambler

From: <goefrs@[REDACTED]>
To: <vmambl@wm.edu>
Cc: <edirc-l@[REDACTED]>
Sent: Wednesday, December 14, 2005 8:52 AM
Subject: Status of protocol EDIRC-20051213-2-vmambl, Ambler-Dissertation-Rev3 set to EXEMPT.

This is to notify you on behalf of the Education Internal Review Committee (EDIRC) that protocol EDIRC-20051213-2-vmambl titled Who Flourishes in College? Using Positive Psychology and Student Involvement Theory to Explore Mental Health Among Traditional Aged Undergraduates has been exempted from formal review because it falls under the following category(ies) defined by DHHS Federal Regulations: 45CFR46.101.b.2.

Work on this protocol may begin on 2005-12-26 and must be discontinued on 2006-01-31. Should there be any changes to this protocol, please submit these changes to the committee for determination of continuing exemption using the EDIRC form at [REDACTED]

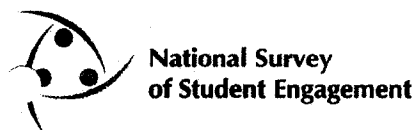
Please add the following statement to the footer of all consent forms, cover letters, etc.:

THIS PROJECT WAS FOUND TO COMPLY WITH APPROPRIATE ETHICAL STANDARDS AND WAS EXEMPTED FROM THE NEED FOR FORMAL REVIEW BY THE [REDACTED] PROTECTION OF HUMAN SUBJECTS COMMITTEE (Phone [REDACTED]) ON 2005-12-26 AND EXPIRES ON 2006-01-31.

You are required to notify Dr. [REDACTED], chair of the EDIRC, at [REDACTED] (EDIRC-L@[REDACTED]) and Dr. [REDACTED], chair of the PHSC at [REDACTED] (PHSC-L@[REDACTED]) if any issues arise during this study.

Good luck with your study.

Modified by tjward on 2005-12-14.



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 Last revised September 2005

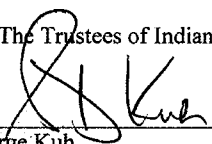


National Survey of Student Engagement

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The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

For The Trustees of Indiana University:

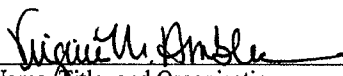


 George Kuh
 Chancellor's Professor and Director,
 National Survey of Student Engagement

10/27/05

 Date

For Licensee:



 Name, Title, and Organization

11-8-05

 Date

Virginia Miller Ambler
 Assistant Vice President for Student Affairs
 College of William and Mary

Ginger Ambler

From: "Corey Keyes" <ckeyes@emory.edu>
To: "Ginger Ambler" <vmambl@wm.edu>
Sent: Wednesday, June 09, 2004 3:13 PM
Attach: Adult Mental Health Measures and Diagnosis.rtf
Subject: RE: Mental Health Continuum

Dear Ginger:

Bless you, bless you, and bless you for undertaking this project. I cannot tell you how much I have wanted to see this work make its way into the understanding of health issues in college students. I have wanted to do some of this work myself, but have been recently consumed with new data from the study of the mental health continuum in youth and adolescence (in short, I believe taking this work toward the younger age groups is very important, since all of it to date has focused on adults).

Anyway, enough of my cheerleading, you need the scales and permission, and you have it. I have attached the scales used in the published studies, along with a brief reference section, and the diagnostic criteria.

I would love to know more about your study, will definitely want to hear about the results, and will want to encourage you to publish your findings and see if Universities can make this part of their policy domain.

Best wishes,
Corey

APPENDIX F
Email Invitation sent to Participants

January 12, 2006

Dear [State College] Junior,

In addition to working as a Student Affairs administrator at the College of William and Mary, I am also a W&M student -- a doctoral candidate in the College's Ph.D. program in Education Planning, Policy, and Leadership. I write to you today with my student hat on!

As an undergraduate junior at [State College], you are being invited to participate in my dissertation research by completing a brief web-based questionnaire. The purpose of the study is to explore the relationship between (1) undergraduate students' involvement/engagement in the college experience and (2) their sense of personal well-being. Items included on this questionnaire come from the National Survey of Student Engagement's College Student Report (2005) and Corey L.M. Keyes' (2002) well-being scales.

I've chosen to send you this invitation before the Spring semester gets fully underway hoping that you can more easily make time to complete the questionnaire. As an added incentive, 5 lucky participants will be randomly selected each to receive a \$40 gift certificate to the [State College] Bookstore -- just in time to help defray some of those academic expenses! Completing the survey is voluntary and should take only about 10-15 minutes.

To complete the survey, go to <http://www.wm.edu/studentaffairs/amblerdissertation>. You will need to log in using your [State College] Username and password. Be assured that the information collected for this study will be kept absolutely confidential and no reference will be made in any oral or written report that would link you individually to the study.

Remember to allow 10-15 minutes to complete the survey. The survey must be completed in one sitting and the system will allow you to submit responses only once. In order for your responses to be included in this study, please complete the questionnaire by Friday, January 20. Should you have any questions, please feel free to call me directly at 757-221-1234.

Thanks in advance for your time -- and for helping me achieve my goal of graduating this May!

Sincerely yours,
Ginger Ambler

This project was found to comply with appropriate ethical standards and was exempted from the need for formal review by the [State College] Protection of Human Subjects Committee (phone xxx-xxx-3901) on December 26, 2005 and expires on January 31, 2006.

Virginia Miller Ambler
Assistant Vice President for Student Affairs
The College of William and Mary
757-221-1234

Follow-Up Emails Sent January 17 and January 21

Welcome back to campus! I hope your break was restful and that you are as excited as I am about starting this next semester.

Last Thursday, I sent you an email asking you to complete a brief on-line survey as a participant in my dissertation research on college student engagement and well-being. If you are one of the many juniors who has already completed and submitted the questionnaire, thank you so much! For those who have not yet completed the survey, I thought a reminder would be helpful now that you are back on campus -- the URL is <http://www.wm.edu/studentaffairs/amblerdissertation>. It should not take you more than 10-15 minutes to complete, and you will immediately be eligible to win one of five \$40 gift certificates to the [State College] Bookstore.

Your participation really is critical to my study and I appreciate your taking time to help me with my research! Last week's email is attached below for your reference.

Thank you, thank you!

Ginger Ambler
Assistant Vice President for Student Affairs
Ph.D. Candidate, School of Education

Dear Selected Students,

I wanted to send one final email to those of you who have not yet completed the on-line survey as part of my dissertation research. This brief 10-15 minute survey can be easily accessed at www.wm.edu/studentaffairs/amblerdissertation, and I would be most grateful for your participation.

As an added incentive, those of you who respond between now and midnight on Sunday, January 22 will be entered into a special drawing to win a lunch with [Campus Celebrity] for you and a friend of your choosing! I am especially grateful for [Celebrity's] generous support of my efforts -- The prize drawing will take place this Monday (including the drawing for five \$40 Bookstore gift certificates).

With your help this weekend, I am hopeful that I will have the number of participants needed to reach some meaningful conclusions about the relationship between undergraduate student involvement and personal well-being.

Many thanks and best wishes for a wonderful Spring semester!

Ginger Ambler

Virginia Miller Ambler
Assistant Vice President for Student Affairs
The College of William and Mary
757-221-1234

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