

COLLEGE STUDENTS' PSYCHIC INCOME FROM INTERCOLLEGIATE FOOTBALL  
AND ITS IMPACT OF COLLEGE SATISFACTION

By

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To my father, Sun-chi Kim (1942 - 2009)

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Abstract of Dissertation Presented to the Graduate School  
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A great amount of research has been conducted to determine the criteria of college student satisfaction and to develop measurement instruments to examine the overall quality of life among college students, but limited research has investigated specific aspects of college satisfaction. In addition, relatively few studies have attempted to explain the link between student satisfaction and college sports despite the enhanced interests in this link. The primary goal of this study was to develop a valid and reliable scale to measure how college students' psychic income from the school's athletic teams influences their satisfaction with college. Instead of developing a new framework, Crompton's (2004) psychic income paradigm was adopted and the preliminary questionnaire was established by a comprehensive literature review, expert review, a field test, and a pilot study. Confirmatory factor analysis and reliability tests were employed with the total number of 663 data for the final purification of the scale of psychic income (SPI). As a result of a factor analysis, the 7-factor model with 27 items was conceptualized: *Social Bonding* (3 items), *Excitement* (3 items), *Emotional Involvement* (5 items), *Collective Self-esteem* (3 items), *Pride from Being a Major Collegiate Sport Institution* (5 items), *Pride from Increased Institution Visibility* (4 items),

and *Pride Due to Additional Campus Development Efforts* (4 items). The hierarchical analysis in multiple regression was employed to identify the best predictors of college satisfaction and revealed that six independent variables significantly predicted the outcome and collectively explained approximately 40% of the variance in college satisfaction. The six variables were gender, Excitement, Emotional Involvement, Pride from Being a Major Collegiate Sport Institution, Pride from Increased Institution Visibility, and Pride Due to Additional Campus Development Efforts. This study provided an important step towards better understanding psychic income, which is one segment of social impact analysis measurement, and should prove useful for college administrators, sport practitioners, and marketers. The findings of this study will help explain why college sport receive increasingly more television air time and also why its business aspect is getting acceptable to the college administrators and entrepreneurs. In addition, the findings of this study will fulfill the call for supplementary construct of college life.

## CHAPTER 1 INTRODUCTION

### **College Satisfaction**

The Office of Postsecondary Education in the U.S. Department of Education administers higher education programs and the Higher Education Act of 1965 (reauthorized in 2008), which defines a higher education institution as “a public or nonprofit private educational institution in any state that awards a degree that is acceptable for admission to a graduate or professional degree program” (Department of Education, 2010). In some East Asian countries, the terms “college” and “university” are frequently translated to “the big or great learning.” Concurrently, higher education institutions emphasize student satisfaction assessments to identify institutions’ strengths and challenges; they then use this information to respond to increased competition from other colleges and universities as well as private providers nationwide and internationally (Fullan, 2003; Koiliias, 2005; Sirgy, Grezeskowiak, & Rahtz, 2007). According to the United States Department of Education (2009), total undergraduate enrollment in degree-granting postsecondary institutions rose by 19% from 2000 through 2007. The enrollment in 2000 was 13.2 million, up from 7.4 million in 1970, and it increased to 15.6 million in 2007 (U.S. Department of Education, 2009). The United Nations Educational, Scientific, and Cultural Organization (UNESCO) addressed the implications of globalization for higher education as a critical issue in today’s competitive educational market (UNESCO, 2009). Facing challenges to sustain their institutions in the market, colleges and universities recognize that higher education is now categorized as a service industry.

Strengthening students' satisfaction is an important mission of educators because college satisfaction has been linked to student academic performance and attrition (Chow, 2005; Okun & Weir, 1990; Nguyen & LeBlanc, 2001). Institutions with more satisfied students typically enjoy higher graduation rates, higher alumni giving, and better academic performance (Cha, 2003; Okyun et al., 1990; Yu & Kim, 2008). Researchers and organizations have found that a student's satisfaction with an institution depends not only on academic factors but also on a number of other benefits related to student life (Deshieds, Kara, & Kaynak, 2005; Koilias, 2005; Sirgy et al., 2007). Genetic factors such as demographic and personality variables also influence an individual's satisfaction. However, several studies have claimed that demographic variables may not explain much about an individual's satisfaction with college and, alternatively, that self-esteem appears to be one of the strongest predictors of such satisfaction (Campbell, 1981; Cha, 2003; Diener & Suh, 1999). In sum, college satisfaction is an important source of competitive advantage for an institution in the context of globalized higher education markets.

### **Intercollegiate Sport as an Industry**

In the United States, colleges and universities are intellectual agencies, but they are also social, commercial, and athletic agencies. While higher education institutions pursue competitive academic performance, intercollegiate athletics have been growing rapidly and providing a sense of excitement, pride, and involvement to the college and community (Duderstadt, 2000; Gerdy, 2000). Before the mid-1980s, college sports did not have significant value in American culture and few regulations governed the intercollegiate athletics industry (Gerdy, 2000; Smith, 2004). However, college sports now represent a major portion of the sport industry, and college sports programs are as

prosperous as professional sport leagues. In academic fields, researchers have attempted to examine the value of sport to an institution and its community as an integral part of society with economic, social, and educational assessments (e.g., Austrian & Rosentraub, 2002; Baade & Dye, 1998; Coates & Humphreys, 2000; Crompton, 2004; Eckstein & Delaney, 2002; Gramling & Freudenburg, 1992; Rosentraub & Swindell, 2002; Siegfried & Zimbalist, 2000). However, the majority of value studies essentially have focused on economic assessments (Fredline & Faulkner, 2000; Sherwood, Jago, & Deery, 2005; Swindle & Rosentraub, 1998).

The National Collegiate Athletic Association (NCAA) Division Football Bowl Championship is worth \$2 billion per year (Ozanian, 2008) and the largest revenue-generating organization earned \$118 million in 2008 (NCAA, 2009). CBS Sports broadcast its 26th consecutive NCAA men's basketball tournament in 2010, an event for which the NCAA has an 11-year, \$6 billion contract with CBS that extends through 2013 (CBS Sports, 2009). The athletic department at the University of Alabama negotiated an eight-year, \$32 million contract in 2007 with Nick Saban in an attempt to return to national football prominence (Forbes, 2008). Saban previously was a National Football League (NFL) coach for the Miami Dolphins, and he led Alabama to the 2009 Bowl Championship Series (BCS) national championship.

In the intercollegiate sport industry, the NCAA is the most powerful organization, with more than 1,000 member universities under three divisions: Division I, II, and III (Dehass, 2009). Counting other sanctioning organizations, such as the National Association of Intercollegiate Athletics (NAIA) and the National Junior College Athletic Association (NJCAA), almost every college in the U.S. has an athletic department. Ohio

State University had the largest college athletic department budget in the 2007-2008 fiscal year at nearly \$110 million (SportsBusiness Daily, 2007). According to the NCAA, approximately 412,768 student-athletes participated in sports for which the NCAA conducted championships in 2007-2008 and 57.4% of the total participants were male student-athletes (NCAA, 2009a). During the same academic year, the number of NCAA championship sport teams sponsored was 17,682, an increase from 17,491 in 2006-2007 (NCAA, 2009).

The affirmative description of intercollegiate sport is valid, but not all athletic programs in the U.S. generate positive financial impacts on their universities. Fulks (2009) revealed that the average net generated revenues, revenues exceeding expenses, for financially successful athletic programs in 2007-2008 was \$3,367,700, but the average net deficit for other athletic programs was \$9,870,000. The gap between the financially successful athletic departments and others has continued to broaden in recent years (Fulks, 2009). From 2004 through 2008, only 15% to 21% of Division I football bowl subdivision (FBS) programs reported more revenues than expenses (Fulks, 2009). Even the most popular college sport programs, football and men's basketball, reported between 50% and 60% net generated revenues during the last five years (Fulks, 2009).

Gerdy (2000) suggested a skeptical view toward athletic departments' financial statements because measured net profits may not be true figures. The rationale behind this is that indirect or overhead costs are missing from the financial statements, including amortization of facilities, student athletics support services, and student athletics recruiting expenditures (Gerdy, 2000). Splitt (2007) asserted that independent

and profit-driven athletic departments, especially big-time (FBS) intercollegiate athletics, create out-of-control commercialization issues that include inappropriate financial reports and boosterism. Splitt (2007) indicated that some incomplete financial reports provide unclear pictures of athletic department key employees' contingent benefits and unrelated business income resulting from the excessive sacrifice of taxpayers in the name of tax benefits. However, it is hard to deny the great value of intercollegiate athletics in the U.S. because they boost morale, provide entertainment, and supply ample business opportunities (Duderstadt, 2000; Gerdy, 2000; NIRSA, 2004; Noll, 2004; Shulman & Bowen, 2001; Sperber, 2000; Splitt, 2007).

### **Overview of the Research Problem**

A great amount of research has been conducted to determine the criteria of college student satisfaction and to develop measurement instruments to examine the quality of life among college students (e.g., Abdel-Khalek, 2004; Cha, 2003; Chow, 2005; Koiliias, 2005; Okun et al., 1990; Sirgy et al., 2006; Yu et al., 2008), but limited research has investigated specific aspects of college satisfaction. Relatively few researchers have attempted to explain the link between student satisfaction and college sports despite the enhanced interest in this link. Considering the overall value of intercollegiate athletics, some aspects of college satisfaction should be better specified and measured.

Students' level of satisfaction with an institution needs to be clarified by exploring non-academic factors. Early studies focused on academic aspects as a primary predictor of student satisfaction; however, the environment of colleges or universities has changed due to improved technology and unpredictable economic situations (Clark & Trow, 1996; Deshields et al., 2005; Koiliias, 2005). Astin (1977), in an early study,

discovered that the retention rate of college students is affected by the level and quality of their interactions with peers, as well as faculty and staff. Tinto (1987) added that academic difficulty, adjustment problems, and lack of clear academic and career goals were major factors in student retention. However, academic performance only accounts for half of the variance in dropout rates (Pantages & Creedon, 1978). In addition, social aspects of college such as on-campus housing, recreational activities, and collegiate athletics have become distinct factors that enhance student retention and persistence (Cha, 2003; Sirgy et al., 2006; Yu et al., 2008). Thus, it was beneficial to determine unique nonacademic aspects of college satisfaction instead of a limited overall construct of quality of college life.

Among the variety of relationships between college satisfaction and nonacademic variables, a better understanding of the link with a college's athletic teams needs to be developed. Although many studies have been conducted to find the value of recreational or intramural activities on college campuses (e.g., Artinger et al., 2006; Kantas, 2000; NIRSA, 2004; Yoh, Mohr, & Gordon, 2008), they have not included intercollegiate sport teams. Some studies found a stronger correlation between overall college satisfaction and student participation in athletic activities than between course work and college satisfaction (e.g., Artinger et al., 2006; Astin, 1999; McGuinn & Mosher-Ashley, 2001; Varca, Shaffer, & Sanders, 1984). One of the leading resources for education and research in collegiate recreational sports, the National Intramural-Recreational Sports Association (NIRSA), has been providing education and research to foster high-quality recreational programs since its formation as the National Intramural Association (NIA) in 1950 (NIRSA, 2009). However, few studies have

focused on students' college satisfaction from their intercollegiate athletic teams even though a great deal of research has addressed the enhanced interest in this segment. Thus, whether successful college athletic programs influence college satisfaction, institutional retention, and graduation rates remains unknown.

The current study focused on the relationship between college satisfaction and a specific facet of psychological well-being, a positive impression of collegiate athletics. However, one difficulty was the lack of conceptual frameworks and measurement tools established to examine these relationships. Existing models of college satisfaction differ based on specific attributes of the institutions, and they focus on the overview of strengths and challenges of higher education institutions (Cha, 2003; Koillias, 2005; Okun et al., 1990; Sirgy et al., 2007). Studies of the impact of intercollegiate athletics also have included various assessments of college teams in relation to the institution or the community (Duderstadt, 2000; Mangold, Bean, & Adams, 2003; Shulman et al., 2001; Sperber, 2000). This study seeks to develop the framework of students' psychological benefit (i.e., psychic income) from their home athletic teams and to examine college students' satisfaction through the development of an appropriate measurement instrument.

### **Purpose of the Study**

The primary goal of this study was to explore how college students' psychic income from a school's athletic teams influences their satisfaction with college. To accomplish this goal, the following tasks were conducted: (a) investigate student psychic income from their college teams to provide a conceptual model, (b) develop a valid and reliable scale to measure the latent variables, and (c) examine the link between students' psychic income generated by their intercollegiate teams and their

satisfaction with college. Most importantly, this study emphasized reporting on the development of an instrument, because a valid measurement tool can be adopted for use in various contexts of intercollegiate athletics.

Instead of developing a new framework, Crompton's (2004) psychic income paradigm was adopted. Crompton (2004) attempted to identify rationales other than economic impact for the public subsidy of major-league sports facilities. Kim, Ko, and Zhang (2008) and Kim and Walker (2010) assessed community residents' psychic income from sport mega events, the Daytona 500 and the Super Bowl, using Crompton's (2004) conceptual framework. Crompton's (2004) context was based on professional sport leagues, but this study applied the conceptual framework to intercollegiate athletics. The framework describes the primary components and structures of student psychic income. While examining the theoretical paradigm, this study maintained a focus on the development of enhanced instruments to measure the relationship between college students' psychic income and their intercollegiate teams. To uncover multiple dimensions of this complicated construct, advanced statistical tools were applied to analyze data and to test the framework. Lastly, the developed construct and measurement tool was used to answer the following questions: (a) What are the psychic income factor structures and scale items? (b) Which psychic income constructs most affect college satisfaction? (c) To what extent does each construct influence college satisfaction? (d) If and how can we expect increased student college satisfaction from students' psychic income structure?

### **Delimitations**

This study was designed as an initial step in a series of studies on sport spectators' psychological benefits from their home team, specifically college students'

psychic income from their intercollegiate football team. This study was compounded by a number of factors but the findings are limited to the present sample as well as those individuals in the sample who are undergraduate students at one southeastern NCAA Division I university. The selected institution represents a big-time university that is a large public research university with high-profile football and/or men's basketball teams playing at the highest NCAA levels. The selected institution has one of the largest intercollegiate athletic programs in the U.S. and may be considered a benchmark program for athletic programs in other higher education institutions. However, the results may not be generalizable to other higher education institutions or sporting events, and several factors (e.g., gender, sporting experience, school status) may influence the differences between or within the groups.

## CHAPTER 2 REVIEW OF LITERATURE

Higher education is undoubtedly an intellectual endeavor, but in the United States the fascination with collegiate sports is also undeniable. Intercollegiate sports are a service industry and many academic institutions provide entertainment through their athletic teams in addition to their academic services (Duderstadt, 2000; Gerdy, 2000; Savage, 1929). This phenomenon began with football and was quickly followed by many other sports taking root in colleges. Sports teams are regarded as an economic generator and a visibility enhancement tool (Brand, 2006). Football was the tool that bestowed university students with a sense of identity as early as the 19th century (Leeds & Allmen, 2008). The importance of college sports requires additional research to find its influence on college satisfaction. Thus far, few academic efforts have attempted to find this link; therefore, this chapter provides a review of the literature in the fields of education, recreation, marketing, and sport regarding the issues. First, an overview of college satisfaction is discussed to provide a better understanding of the research questions. Then, a conceptual framework is provided to investigate this satisfaction's impact—specifically, the psychic income college students receive from their athletic teams.

### **Overview of College Satisfaction**

Many colleges and universities have been searching for strategies to improve the quality of student life and learning. To determine students' satisfaction with a wide range of college experiences, institutions conduct surveys under the name of student satisfaction inventories (e.g., Columbia College Chicago, Eastern Oregon University, University of Michigan-Flint, Wright State University) or student satisfaction surveys

(e.g., Eastern New Mexico University, Florida International University, University of Illinois at Chicago). Okun et al. (1990) addressed three rationales of studying college satisfaction: (a) its relationship to grade point average (GPA), (b) its role as a predictor of turnover, and (c) its important subjective educational outcome itself. A privately owned company, Noel-Levitz, Inc., is a relatively well-known higher education consulting firm and has conducted student satisfaction inventories for many institutions. The majority of colleges listed in this paragraph administer the Noel-Levitz student satisfaction inventory (SSI) to use for (a) guidance of institutional strategic plans, (b) student retention management, (c) assisting accreditation requirements, (d) identifying areas of strength for institution marketing, and (e) managing the progress toward institutional goals (Noel-Levitz, 2009).

College satisfaction refers to the overall feeling of satisfaction students' experience in college (Yu et al., 2008). Satisfaction itself refers to a perceived positive quality of life, and it focuses on how and why people experience their lives in favorable ways (Cha, 2003; Cummins & Nistico, 2002; Sirgy, 2007). Two different terms for college satisfaction were used in many studies: quality of college life (QCL) (e.g., Sirgy et al., 2007; Vaez, Kristenson, & Laflamme, 2004; Yu et al., 2008) and subjective well-being (SWB) among students (e.g., Balatsky & Diener, 1993; Cha, 2003). All these studies aimed to find the degree to which individuals judge the overall quality of their campus life in an affirmative way (Sirgy et al., 2007).

A number of studies have investigated the causes of college satisfaction. For example, Pilcher (1998) examined how daily events affect and predict life satisfaction among college students and concluded that feelings of depression, anger, vigor, and

confusion, with physical health and frequency of physical illness, significantly correlate with life satisfaction in college students. Cha (2003) found relationships between college satisfaction and personality variables such as self-esteem, collective self-esteem, and optimism. According to Cha (2003), all of these variables significantly correlated with college satisfaction; however, biosocial variables such as gender and age explain a small portion of satisfaction, but personality may be one of the strongest influences (Cha, 2003; Hofer et al., 2008). Vaez et al. (2004) conducted a study showing a positive correlation between Swedish college students' perceived satisfaction and self-rated health. College satisfaction may differ in various cultures but cross-cultural studies in this endeavor are few; however, Abdel-Khalek found the level of Kuwaiti students' satisfaction was the 2nd lowest among four different countries, including Bahrain, the United States, and Cameroon (Abdel-Khalek, 2003).

Most college satisfaction studies focus on developing instruments for measuring the constructs (e.g., Koiliyas, 2005; Okun et al., 1990; Sirgy et al., 2007; Yu et al., 2008). The College Student Satisfaction Questionnaire (CSSQ), which was developed by Betz, Klingensmith, and Menne (1970) in the late 1960s, is the most widespread scale in use (Okun et al., 1990). This specific scale assesses five facets of college satisfaction assuming college satisfaction is analogous to job satisfaction. Okun et al. (1990) described Betz et al.'s five constructs of college satisfaction in their study as follows:

- (a) Compensation – amount of input (studying) vs. output (grades);
- (b) Social life - opportunities to meet friends and participate in social activities and fulfill other social goals;
- (c) Working condition – the physical conditions such as study areas and residences;
- (d) Recognition – attitudes of faculty and students indicating acceptance of other students; and
- (e) Quality of education – those academic conditions related to the intellectual development of the students (p. 61).

In another early study, Spady (1970) developed a conceptual model to illustrate higher education dropouts with a complex social process basis that included five independent variables: (a) grade performance, (b) intellectual development, (c) normative congruence, (d) friendship support, and (e) social integration. Spady (1971) then conducted a longitudinal study to operationalize the variables of the initial model. Spady's (1971) revised model retained the components of the original model, but found the variable "friendship support" should be revised to "structural relations" and "friendship support." Vaez et al. (2004) measured quality of life (QoL) and addressed four fundamental components of QoL: life satisfaction, self-esteem, health, and functioning in terms of the relationship between individual health status and the quality of life assessments of first-year university students. Sirgy et al. (2007) also attempted to simplify the concept and provided three components explaining quality of college life: satisfaction with academic aspects, social aspects, and facilities and services. NIRSA (2004) examined student overall satisfaction and success in college with 21 factors. The most important factor was course content and range of courses, followed closely by quality of professors and ability to interact with them (NIRSA, 2004). Interestingly, the NIRSA study showed that participation in recreational sports and activities ranked 11th, exactly in the middle of the 21 factors. Watching varsity sports teams and participating in varsity sports were ranked 19th and 20th, respectively.

Although many researchers have attempted to conceptualize the broader notion of college satisfaction into a model, there were no standardized constructs for college satisfaction. However, some conceptual frameworks represent a composite of student satisfaction and affect balance that students experience during college life (Yu et al.,

2008). The first part is the cognitive evaluation of college life, which is the degree of need satisfaction from college life. Those needs in the cognition aspect are health, safety, family, self-esteem, self-actualization, knowledge, and aesthetics (Diener, 1994; Sirgy et al., 2007; Yu et al., 2008). The next is the affective component, which refers to the frequency of positively affecting experiences during college life (Diener, 1994; Hong, Han, & Kim, 2008; Roberts & Clifton, 1992; Yu et al., 2008). The current study included both components, cognitive and affective college satisfaction, but it focused on one specific stimuli of students' satisfaction, and that was intercollegiate athletics.

### **Indirect Impact of Big-time Intercollegiate Athletics**

To discuss various college subcultures, Sperber (2000) addressed the four major student subcultures in his book, *Beer and Circus*: collegiate, academic, vocational, and rebel. These college subcultures were suggested by sociologists Burton Clark and Martin Trow (1966), but their description of the subcultures remains applicable to undergraduate life in the U.S. (Sperber, 2000). Among the four subcultures, the collegiate subculture is the most widely recognized stereotype of college life and it includes the world of football, fraternities and sororities, dates, cars, drinking, and campus fun (Clark et al., 1966). This subculture started in the 18th century when financially middle- and upper-class students enjoyed campus life. It has been a generator of college loyalties and attachments since then (Clark et al., 1966). Particularly, intercollegiate sports provide pride, excitement, and involvement as well as discipline, perseverance, and teamwork to athletes and spectators (Duderstadt, 2000; Gerdy, 2000; NIRSA, 2004; Savage, 1929).

Given its tremendous popularity and influence, the attitude of communities and college administrators regarding the value of intercollegiate sports has changed. Although there were efforts to control college sports as one component of a college education, some college athletics have evolved far beyond the control of many universities (Duderstadt, 2000; Shulman et al., 2001). Big-time football and men's basketball programs are examples of this, due to their enormous media coverage (Duderstadt, 2000; Gerdy, 2000). Advanced technology in transportation and communication has intensified this trend and enhanced intercollegiate athletics beyond regional coverage and interests (Gerdy, 2000). College sports transformed into an important spectator activity for students, faculty, staff, and community members (Gerdy, 2000; NIRSA, 2004). Watching college sports is a predominant form of leisure behavior in the U.S.

Intercollegiate athletics are generally thought to benefit their institutions. In addition, college administrators believe athletic success provides substantial indirect benefits such as raising college profits, increasing donations, attracting higher quality students, enhancing school spirit and reputation, and providing entertainment to the school and to the community (Duderstadt, 2000; Gerdy, 2000; McCormics & Tinsley, 1987; Pope & Pople, 2009; Shulman et al., 2001). For example, empirical studies have found that football and basketball success increases the number of incoming applications, and the increase is 2 to 4 times higher in private schools compared to public schools (McCormics et al., 1987; Pope et al., 2009). Out-of-state students have a preference for higher division intercollegiate schools (Mixon & Hsing, 1994). Big-time athletic victories marginally increase average incoming Scholastic Aptitude Test (SAT)

scores (McCormick et al., 1987; Mixon, 1995; Tucker & Amato, 2006). As discussed in the introduction, financial impacts of successful collegiate athletic programs are enormous and intercollegiate sport is treated as an important business in the U.S.

Despite all these positive impacts of college sports, there have been questions regarding the true impact. A controversial issue regarding direct financial impact was discussed earlier in this study and several empirical studies also had conflicting conclusions on indirect impacts. For example, some researchers found that postseason play is not a significant determinant of donations to institutions in higher education while athletics' overall winning percentage is positively related to alumni contributions (Baade & Sundberg, 1994; Grimes & Chressanthis, 1994; Meer & Rosen, 2008). Thus, the relationship between athletic success and alumni giving is in need of further research. Toma and Cross (1996) revealed that winning an NCAA Division I national championship in football and men's basketball increased the number of new applications, but had no effect on the SAT scores. In another study, Humphreys (2003) showed that Division I-A football schools receive significantly more state appropriations than others, so the impact assessment of big-time college sports requires careful review because of this important external variable.

To determine the indirect economic benefits of intercollegiate athletics, prior researchers have primarily focused on how big-time college sports have influenced college applications, graduation rates, the quality of students, and contributions to the institution. Several researchers have attempted to measure the direct economic impact of intercollegiate athletics, but the findings are controversial (Baade, Baumann, & Matheson, 2007; Matheson & Baade, 2003; Zimbalist, 1999). The direct benefits include

ticket sales, concession and parking revenues, broadcasting rights, postseason games, and licensed merchandise sales (Humphreys, 2003), but the true net profit from college sports is still unclear. The popularity of big-time NCAA championship games may overemphasize their questionable economic impact to the institution as well as to the community. Given the lack of consensus regarding the true impact of intercollegiate athletics, this study specifically examined a different set of effects, which is college students' psychic income from their college sport teams.

### **Psychic Income from a Collegiate Athletic Team**

International sport events such as the Olympic Games or the FIFA World Cup attract a significant amount of worldwide attention. A number of studies have investigated the various impacts of major sport events. However, impact analyses on mega sport events have tended to focus on economic activities with little attention given to non-economic criteria (e.g., Fredline & Faulkner, 2000; Sherwood, Jago, & Deery, 2005). The potential benefits of hosting mega events may go beyond tangible economic outcomes with even small communities seen celebrating their uniqueness, promoting themselves, developing local pride, and enhancing economic well-being (cf. Horne & Manzenreiter, 2006; Ritchie & Smith, 1991). In addition, there was a lack of empirical consensus regarding the usefulness of economic impact analyses, so it became critical to incorporate a measure of residents' perceptions, opinions, and attitudes to maximize supportive attitudes and minimize any pejorative outcomes at the local level (e.g., Gursoy, Jurowski, & Uysal, 2002; Gursoy & Rutherford, 2003; Ko & Stewart, 2002). For the last few decades, the perceived impact of mega events has been a growing research area (e.g., Andereck & Vogt, 2000; Choi & Sirakaya, 2005; McCool & Martin, 1994).

Ritchie (1984) raised the issue of psychic income in a study assessing impacts of hallmark events and Burgan and Mules (1992) added psychic income in their economic assessment study of sport events. Gibson (1998) addressed the importance of this concept in her review of sport tourism, drawing from Burgan et al.'s study. Kim et al. (2008) reviewed literature and found that psychic income has been examined in other disciplines as well. For human resource management (HRM) researchers, psychic income refers to an intrinsic reward induced in a job, such as emotional satisfaction or a sense of achievement (Reif, 1975). Many businesses have used psychic income to satisfy employees' basic emotional needs beyond just monetary incentives, building on Maslow's (1943) hierarchy of needs. Economists (e.g., Johnson, Groothuis, & Whitehead, 2001; Johnson, Mondello, & Whitehead, 2006; Owen, 2006) have applied the concept of consumer/buyer surplus to determine psychic income and measured a host's psychological benefits by way of the contingent valuation method (CVM), which places a dollar value on public goods and services traded outside the marketplace (Walker & Mondello, 2007). The CVM is a survey-based economic technique to measure how much consumers are willing to pay for environmental features (Johnson & Whitehead, 2000); however, willingness to pay for a sport team or event does not provide a complete measure of an individual's psychic income (cf. Johnson et al., 2001; Johnson et al., 2006; Owen, 2006).

In the context of sport management, Crompton (2004, p. 181) defined psychic income as "the emotional and psychological benefit residents perceive they receive, even though they do not physically attend sport events and are not involved in organizing them." Crompton sought to identify a rationale other than economic impact

for the public subsidy of major-league sport facilities. Psychic income was one internal benefit (i.e., residents' internal perceptions) of sport teams along with four external benefits (i.e., economic impact, community visibility, community image, and stimulation of other development). Crompton (2004) included the following seven factors in the conceptual framework of psychic income: (a) community pride as a result of increased community visibility, (b) excitement quotient from visitors, (c) emotional involvement with a team, (d) tangible focus for social bonding, (e) pride in efforts to resuscitate deteriorated areas, (f) civic pride from being a major-league city, and (g) enhanced collective self-esteem.

Adopting Crompton's (2004) framework, Kim et al. (2008) investigated sport event host-residents' psychological benefits as a response to the increased call for a broader approach to impact analysis. They first distinguished social impacts and psychic income. Table 2-1 lists several frameworks of social impact studies, but there is no standardized single taxonomic framework for social impact analysis (SIA). In addition, it is almost impossible to combine all dimensions of social impacts because any social changes stimulate unexpected consequences (The Interorganizational Committee, 2003). One of the most comprehensive frameworks for social assessment is the suggested model from Gramling and Greudenberg (1992), which illustrates six distinct systems (i.e., physical, cultural, social, political, economic, and psychological) of the human environment across three time periods (i.e., before, during, and after conducting a project).

Among the various perspectives of social impact, it has been argued that host-residents' psychological impact should be examined separately (e.g., Burgan & Mules,

1992; Crompton, 2004; Gibson, 1988; Ritchie, 1984). Thus, Kim et al. (2008) tested a scale of psychic income (SPI) with samples of Daytona Beach residents, who host the Daytona 500 annually. Those items were validated by a principal component analysis (PCA) using Cronbach's alpha and factor loadings. The scale comprised four domains: (a) emotional benefits, (b) positive economic assessment, (c) increased quality of community life, and (d) enhanced perception of the public utility. Kim (2009) also attempted to develop a scale of psychic income for sport event host-residents by surveying Tampa Bay, Florida, residents. The target sport event was the 43rd annual NFL championship game on February 1, 2009. Crompton's (2004) psychic income paradigm was adopted in Kim's study and it established a total of 22 items under five psychic income factors: (a) community pride as a result of enhanced image, (b) enhanced community attachment, (c) event excitement, (d) pride in efforts to improve community infrastructure, and (e) community excitement. This specific study conducted two statistical analyses to develop and validate a psychic income scale: a principal component analysis and a confirmatory factor analysis.

This study adopted Crompton's (2004) psychic income paradigm, which focused on major-league sports, and modified the seven dimensions to collegiate settings. Crompton's framework is considered to be one of the most comprehensive conceptual approaches measuring community members' psychological benefits from teams, but this paradigm has yet to be empirically tested in a published work. Thus, this present study is believed to be an early step toward validating event host-residents' psychic income. To measure college students' psychic income from their intercollegiate teams, a modified 7-factor framework was introduced: (a) pride from increased institution

visibility, (b) excitement quotient from games, (c) emotional involvement with a team, (d) tangible focus for social bonding, (e) pride from being a big-time collegiate sport institution, (f) pride in efforts of additional campus development, and (g) enhanced collective self-esteem. Table 2-2 shows a comparison between Crompton's (2004) conceptual model and the framework used in this study. In sum, psychic income is the internally perceived benefit (Crompton, 2004) and the feel-good impact that college students perceive as a result of their collegiate athletic teams (Hall, 1989).

### **Pride from Increased Institution Visibility**

Given that big-time college sports, especially college football, are among the most popular spectator sports in the U.S., this dimension of student pride refers to students' strong sense of self-respect due to the increased visibility of their institutions nationally and internationally owing to their intercollegiate athletic teams (Baade et al., 2007; Crompton, 2004; Gibson, Qi, & Zhang, 2008). When more people watch collegiate sports, the individual team and its games provide connections between the school and outsiders. The growth of media coverage is the primary reason for increased institution visibility. When the NCAA basketball tournament began in 1939, the event sponsors lost about \$2,500, but currently the television broadcast rights for the tournament alone exceed \$550 million each year (Matheson & Baade, 2004). This lucrative television contract reflects the successful television ratings of big-time college sports. The NCAA BCS is the second-most watched sport event after the NFL's Super Bowl, and its television rating is roughly double the size of the National Basketball Association (NBA) finals or Major League Baseball (MLB) World Series (Baade et al., 2007). College sport has become a major form of public entertainment, and newspapers and television channels are saturated with news about collegiate athletics (Duderstadt,

2000). This effect generates a long-term benefit because individual higher education institutions improve their profile and donation opportunities (Hiller, 1989; Long & Caudill, 1991).

When the media televise college sports, they show not only the game itself, but often they showcase the school, community, some popular restaurants in town, and other attributes. As a result, both the colleges and the towns receive national and perhaps even international attention resulting in increased publicity. An institution's enhanced visibility attracts more applicants to the school and the school has more opportunities to select high-quality students from a larger applicant pool (Smith, 2007; Pope et al., 2008; McCormick et al., 1987). According to Toma and Cross (1998), 14 of the 16 schools that won or competed for championships in college football showed some increase in the freshman application pool following the championship. The University of Miami and Georgia Institute of Technology are noticeable cases. Miami showed a 34% increase in admission applications a year after the 1987 championship and Georgia Tech had a 21% increase after the 1990 national championship (Toma et al., 1998). In the same study, Toma et al. (1998) found that the NCAA men's basketball championship was also related to an increase in college admissions but it was not of the same magnitude as college football. Pope et al. (2008) concluded that it is increasingly clear that the success of college athletics influences the incoming freshman classes, and they found that males, African Americans, and high school athletes are more likely to be influenced by college sports than other applicants. Other researchers claim that there is no significant relationship between the success of men's basketball and the college application increases (Bremmer & Kesselring, 1993; Tucker, 1992; Tucker &

Amato, 2006). Even so, extending these results, there is likely also a positive relationship between college satisfaction and successful intercollegiate athletics performance. College students likely derive pride and satisfaction from their school name being known regionally and nationally.

### **Pride from Being a Big-time Collegiate Sport Institution**

College student pride from being at a big-time collegiate sport institution indicates an individual student's positive mental reconstruction due to the enhanced image of his or her college being a big-time college sport school (Johnson & Whitehead, 2000; Crompton, 2004). Sperber (2000, p. 12) defined a big-time university as "a large public research university with high-profile football and/or men's basketball teams playing at the highest NCAA levels." The prestige associated with recognizable sport teams and hosting their games may have tremendous value to students. The intercollegiate team serves as one way to bring together students, faculty, staff, alumni, and community members (Duderstadt, 2000; Shulman, 2001). College football games at places like the University of Michigan, the Ohio State University, and the University of Florida generate large paid attendance by college football enthusiasts (Baade et al., 2007). In 2008, the Southeastern Conference (SEC) led college football attendance compared to other conferences; it attracted more than six million fans and averaged 75,816 at each game (Kalafa, 2009). College football provides a meaningful connection tool for the local sport fans who contribute financial support to the athletic department or to the college (Toma, 2003). Although there is conflict with educational values, big-time college sports have been closely identified with academic institutions and their student campus life (Duderstadt, 2000).

Regardless of its unclear financial outcomes and social value to the institution, college presidents believe that successful college sports performance promotes their institution as a major university (Gerdy, 2000). To college presidents and administrators, big-time college sports are an effective instrument to expand awareness of the school and to enhance the institution's positioning (Nguyen & LeBlanc, 2001). Nguyen et al. (2001) stated that institutional image is "the overall impression made on the public about an organization," and it is related to various attributes of the organization. Intercollegiate athletics certainly serve a functional role, and emotional elements represent the image of the institution (Belanger, Mount, & Wilson, 2002). College home teams provide sufficient opportunities to manifest students' feelings and attitudes toward their institution. In addition, Gibson, Willming, and Holdnak (2003) discovered that small-scale events (e.g., college sports) increased community spirit and travelers' awareness of the host community. The authors found that students, fans, and residents prided themselves on being college football fans, but also expressed pride in the university facilities, the winning record of the team, and the community in which they resided (Gibson et al., 2003). Based on this, successful athletic teams, specifically football teams, enhance students' pride in being from a major college sport school and the students are likely to perceive the college as attractive. In other words, college students identify themselves with their athletic team's image (Bhattachary & Sen, 2003; Tajfel & Turner, 2004).

### **Pride in Efforts of Additional Campus Development**

Intercollegiate sport is regarded as a service business and big-time college sports, including football and men's basketball, raise enough revenue to cover the expenses of the athletic department (Duderstadt, 2000; Gerdy, 2000; Noll, 2004;

Savage, 1929). There is unclear evidence of positive economic impacts of intercollegiate athletics, however; students likely have heightened pride due to their institution's efforts to develop school facilities and improve other services, regardless of the degree to which the outcome is successful. A collegiate home team has a unique value to the school and also to the community; thus, its success is difficult to judge with a basic cost-and-benefit analysis (Gratton, Shibli, & Coleman, 2006; Matheson et al., 2004). Morgan (1997) posited that sports provide triumphs of the human spirit, social bonding, and family memories and are about celebrating those things that compose society, such as competition, victory, and redemption. Thus, active sport participants or spectators tend to be more aware of indirect sport impacts and ignore the true economic impacts (Austrain & Rosentraub, 2002).

In addition, most economic or social impact studies in the sport field focus on mega sport events. These studies show that many believe sport events can revitalize deteriorated community areas, especially aging downtown areas, and that new or renovated infrastructure would give a competitive advantage to the community (Chapin, 2004; Hall, 1992; Teye et al., 2002). According to Crompton (2004), a sports facility stimulates additional development, at least in part as a consequence of increased visibility and enhanced image. Crompton (2004) specified three types of development stimulated by hallmark sport events: (a) proximate, (b) complementary, and (c) general. Proximate development refers to an integrated redevelopment package substantially close to the facility. Complementary development is the upgrading or beginning of new businesses responding to the need for those services. The last type of development, general development, is any attempt to regenerate community image (Crompton, 2004).

Several studies have indicated that the rationale for public subsidy of sport facilities has changed from indirect economic impact to urban redevelopment (Chapin, 2000; Rosentraub, 1997). In the context of college students' psychic income from their teams, the addressed rationales are still applicable. Successful intercollegiate performance enhances students' expectations of positive economic impact and these beliefs typically generate students' pride in the school's efforts to improve the quality of college life, including academic services, housing, facilities, recreational activities, clubs, and the general school environment (Sirgy et al., 2006; Yu et al., 2008; Koilias, 2005).

Although it is still difficult to measure the real monetary impact of intercollegiate athletics on institutions, previous studies have suggested that at least college students' sense of school pride becomes greater because of their belief that their school's attempts do boost additional campus development and enhance school spirit. This enhanced spirit increases community members' pride, as well.

### **Excitement Quotient from Games**

This dimension, excitement quotient from the game and visitors, refers to college students' emotionally stimulated states that come from home team games (Chalip, 2006; Green, 2001). Beginning with the first college football match between Rutgers and Princeton in 1869, the current period is regarded as college football's greatest era (Henderson, 2007). The intercollegiate football atmosphere provides excitement to the students and to fans and community members. It adds to the traditions and history of the institution and the community (Duderstadt, 2000; Sperber, 2000). The game itself is a form of art and expression (e.g., Sloan, 1989; Wann, 1995, Miline & McDonald, 1984). It provides physical activities representing a type of beauty, artistic expression, and aggression. People cheer at the exciting moments and thereby lower their stress levels.

College rivalry games especially increase the perceived excitement level, and this is quite common in most college towns. Gibson (2002) described the college football phenomena at one big-time athletic school, the University of Florida (UF). The following paragraph provides some indication of the excitement of college football:

On the Friday afternoons before the Saturday football games, the excitement is already building in Gainesville. Vehicles on the highways heading towards Gainesville display flags proclaiming their allegiance to the Gators and there is a proliferation of orange and blue clothing (UF colors) worn by administrative staff, students, and fans. Many fans arrive in their recreational vehicles to stake out their spots in the parking lots on and around the university. There are many entrepreneurial students who sell parking spaces in the yards of their houses ... The grocery stores close to the university prominently display tailgating supplies at the front of their stores ... Every spare space on the UF campus is filled with fans grilling, eating, drinking, and socializing. Some have elaborate tailgate spreads while others have simpler affairs. There are tents, RVs, chairs and tables, coolers, and orange and blue everywhere. About an hour before the game, the fans start closing up their vehicles and begin walking towards the stadium ready to cheer their team ... Then all too soon it is Sunday morning and the town is quiet except for the crews cleaning up the trash left by the fans from the day before. Fans who have stayed in town overnight can be seen streaming away from Gainesville, flags will flying on their vehicles, reminiscing about the game the day before. If there is a home game the next weekend, they will repeat the process again. If the game is away, some will travel to follow the Gators on the road, and others will have parties at home to watch the game on television. For Gator football fans everything is scheduled around the football fall season.

Behind the scenes of this ecstasy, there is also the effort of athletic departments and related organizations. They promote tailgate parties and various activities more than the event itself to increase the level of excitement, and these activities add an extraordinary energy to the community (Crompton, 2004; Chalip, 2006). "College GameDay" is a unique ESPN sports program showing the energy and excitement of the home team for Saturday's games. Increased numbers of visitors in a short period of time may cause noise, traffic, and disruption (Waite, 2003), but the enhanced excitement among college students and visitors is inevitable, mutually transferable, and contagious.

In the late 1990s, there was public concern about student alcohol consumption; several schools endeavored to ban alcohol in undergraduate housing units, but student drinking did not diminish and was regarded as a freedom of choice (Sperber, 2000). Duderstadt (2001) similarly reported that any controversial issues regarding intercollegiate athletics were treated as minimal because of the university's various forms of public service, including providing medical centers, technology development, concerts, and recreational opportunities. The impact on students' excitement levels may depend on a team's performance, reputation, tradition, and history; however, college students' stimulated emotion is classic and they positively respond to the efforts of the athletic department and game.

### **Emotional Involvement with a Team**

Since students wear apparel indicating their school by colors, logos, and words on college game days, intercollegiate sports are a medium through which schools express their status and attributes to other schools and a national audience (Crompton, 2004). Emotional involvement with a home team refers to college students' increased sense of motivation, arousal, or interest toward their collegiate athletics. Students who are involved with their athletic team can be expected to feel better about them and these students are typically committed to the school. Astin (1984) referred to involvement as "the investment of physical and psychological energy in various objects." In the context of sports, sport involvement can be indicated by self-reference as a fan or fan participation, spectating, and consumption behaviors (Clopton, 2005).

Involvement itself has been an important theme for marketing researchers because it influences consumers' behavior and their decision-making procedures (e.g., Assael, 1992; Bloch, Sherrell, & Ridgeway, 1986; Donovan & Jelleh, 1999). A consumer

demonstrating high levels of involvement exhibits higher loyalty to certain products, and the same relationship exists between sport spectators and their teams (McGehee, Yoon, & Cardnesnas, 2003). McGehee et al. (2003) found that individuals who have higher levels of involvement with running events exhibited frequent participation in running events and also increased spending on running-related goods and services. In the field of the human resource management, several studies have also found a high correlation between job involvement and job satisfaction (Blau & Boal, 1987; Knoop, 1995).

Individuals' involvement with a team occurs when they put personal meanings into the sport events and realize pleasure or interest from the team (Havitz & Dimanch, 1999). Sport teams are a medium to express individuals' personality and enhance their status (Crompton, 2004). The relationship between sport teams and their fans can be referred to as "a love affair," which is not unlike a marriage (Crompton, 2004). College students talk about last Saturday's football game with classmates and they often know critical games, popular players, and game schedules better than they know some class materials. They search for detailed information online and plan for the next game. Intercollegiate athletics provide a sense of involvement within the university, local community, and sometimes within the state or region (Clopton, 2005). The degree of individual student involvement differs from one to another, but college sports can be a method of involving students with the university. Clopton (2005) indicated that higher education institutions may use intercollegiate athletic teams as a potential "club" or "activity." This realized pleasure, emotional involvement with a team, enhances

students' perception of the importance of, interest in, and pleasure from intercollegiate sports.

### **Tangible Focus for Social Bonding**

Big-time intercollegiate sports provide for an increased number of college students' interactions, including friendships, sentiments, and social affiliations with various groups (Sperber, 2000; Duderstadt, 2001). Social interaction is an important factor for an individual's well-being in society and several research projects have substantiated the proposition that sports can increase an individual's affiliation with others (e.g., Funk, Mahony, & Ridinger, 2002; Trail & James, 2001; Wann, 1995). Sports reflect the human spirit, social bonding, family memories, competition, and victory (Morgan, 1997). The enhanced social bonding improves college students' social relations, generates teamwork, and decreases feelings of social alienation (e.g., Collins, 2004; Crompton, 2004; Frey & Eitzen, 1991; Washington & Karen, 2001). When people watch and enjoy sport games with family, their family time also increases (Eitzen, 2005; Funk, Mahony, Nakazawa, & Hirakawa, 2001; Wann, 1995). Collegiate sports provide additional tangible socializing opportunities that include tailgating, rituals, ancillary events, and informal social opportunities (e.g., Chaplip, 2006; Coakley, 2001).

According to Maslow's (1943) needs hierarchy, individuals attempt to fulfill a sense of belonging in their community when they transition to higher levels. Miline and McDonald (1999) suggested 12 motivation constructs for sport spectators within Maslow's hierarchy and listed two dimensions, affiliation and social facilitation, related to social bonding. According to Miline et al. (1999), affiliation is "connecting or associating oneself with the need to interact, socialize with others, and belong." The authors defined social facilitation as "the social gratification of being with others who enjoy the same

activity” and asserted that sport spectators and participants have more opportunities to spend time with family members, friends, and business associates. Wann (1995) used the term “affiliation” in his sport fan motivation study and stated that people desire to maintain group contacts and avoid feelings of alienation. Social bonding enhances individuals’ sense of belonging and achievement (Bourne & Ekstrand, 1985). The described impact of socialization is also applicable to community settings, when local residents seek interaction and a sense of belonging in social groups to fulfill their needs. It can be met through fan behavior, such as attending games, watching sport programs, wearing sport-related apparel, and discussing sports with others (Shank, 2005). Although the game duration is short, college students have various tangible socializing opportunities pre- and post-game (Eitzen, 2005). To many individuals, this social opportunity is important to create, maintain, and strengthen camaraderie, family ties, and social interactions with others.

### **Enhanced Collective Self-esteem**

In the context of the current research, enhanced collective self-esteem refers to an individual college student’s increased morale as a school member due to successful home athletic teams. According to social identity theory (Brown, 2000; Tajfel, 1982; Tajfel & Turner, 1979), self-concept has two distinct aspects: personal identity and social identity. Individuals see themselves not only as one single person, but also as a member of a social group. Later studies differentiated three aspects of identity rather than two: personal, social, and collective identity (Check, 1989; Hui, 1988; Triandis, 1989; Triandis, Bontempo, Villareal, Asai, & Luccs, 1988). This collective identity is similar to the social identity in Tajfel and Turner’s early social identity studies (Cheek, 1989), and several terms are used interchangeably, including social identity, collective

identity, organizational identity, and group identity (Heere & James, 2007a). This collective identity contributes to not only an individual's self-conception but also his or her self-evaluation (Brewer & Gardner, 2004; Hardy, Lawrence, & Grant, 2005). The issue of team identity has been an important topic in sport management (Heere & James, 2007b; Madrigal, 2001; Wann & Pierce, 2003) and individuals have identified themselves with other members using sport as an instrument (Anderson & Stone, 1981).

An individual student's collective identity or collective self-esteem derives from membership in a social group such as home athletic team fans. As Crompton's (2004, p. 56) self-esteem dimension refers to "enhanced collective self-esteem from a winning or respected team," college students' collective self-esteem is positive when the value of their teams is greater than the value of others' (Luhtanen & Crocker, 1992). Some researchers explain this behavior with basking in reflected glory (BIRGing) and cutting off reflected failure (CORFing) (e.g., Kahle, Lynn, & Chris, 2004; Milne & McDonald, 1999; Trail, Anderson, & Fink, 2003). Trail et al. (2003) used the term "self-esteem maintenance behaviors" to describe this phenomenon and asserted that people build self-esteem through their association with successful teams but maintain existing self-esteem levels by distancing themselves from poorly performing teams. The college sport atmosphere gives students a feeling of accomplishment and achievement when the team succeeds (Wann, 1995).

Individuals in modern society exhibit limited collective consciences because societies are highly complex and members are likely to be alienated from each other (Eckstein & Delaney, 2002). However, sport is a medium through which social groups

express their identities and shared beliefs (Branscombe & Wann, 1991; Heere & James, 2007a). Collegiate athletics also enhance community self-esteem, including improved quality of life, a wider variety of cultural activities, enhanced community identity, and increased recreational opportunities (Delamere, Wankel, & Hinch, 2001; Haley, Smith, & Miller, 2005; Ko & Stewart, 2002; William & Lawson, 2001).

Table 2-1. Examples of Social Impact Analysis (SIA) Framework

SIA	Dwyer, Mellor, Mistills, & Mules (2000) Wood (2006)	Gramling & Freudenburg (1992)	Haley, Snaith, & Miller (2005)	The Interorganizational Committee (2003)	Delamere, Wankel, & Hinch (2001)
Social	Social benefits Social costs	Physical Social	Positive social impacts Negative social impacts	Population change Community and institutional structures Community and family changes Community resources	Community benefits Quality of life concerns
Economic	Economic benefits Economic costs	Economic			Community resource concerns
Cultural		Cultural			Cultural/Educational benefits
Political		Political/legal		Political and social resources	
Psychological		Psychological			

Table 2-2. A Brief Comparison between Crompton's (2004) Paradigm and the Conceptual Framework in this Study

<i>Crompton's (2004)</i>		<i>This Study</i>	
<i>Dimension</i>	<i>Description</i>	<i>Dimension</i>	<i>Definition</i>
Community Pride from Enhanced Community Visibility	"Increase community visibility may be a source of pride to residents who derives satisfaction from their community's name being widely disseminated across the nation" (p. 55).	Pride from Increased Institution Visibility	Student's strong sense of self-respect due to increased institution's visibility nationally and internationally owing to their intercollegiate team
Civic Pride from Being a Major League City	"... residents' perceptions of enhanced image stemming from being a "major league" or "first tier" city, and from living in a city that demonstrates to the rest of the world a positive "can-do" attitude towards major projects" (p. 55).	Pride from Being a Big-Time Collegiate Sport Institution	Student's positive mental reconstruction due to the enhanced image of their college being a big-time college sport school
Pride in Efforts to Resuscitate Deteriorated Areas	"The notion that "something is being done" may alleviate the collective community conscience, irrespective of the degree to which the outcome is successful" (p. 55).	Pride in Efforts of Additional Campus Development	Student's heightened pride due to their institution's effort to develop school facilities and improve other services, irrespective of the degree to which the outcome is successful
Excitement Quotient from Visitors	"... an ambiance of vibrance and vitality is created by a temporary influx of sports fans excitedly anticipating a game" (p. 55).	Excitement Quotient from Games	Student's emotionally stimulated state that comes from home team's games
Emotional involvement with a team	"a love affair" (p. 50)	Emotional Involvement with a Team	Student's increased sense of motivation, arousal, or interest toward their collegiate athletics
Tangible Focus for Social Bonding	"Sport teams provide a tangible focus for building community consciousness and social bonding. They are an important part of the collective experience of urban dwellers since they tie them together regardless of race, gender or economic standing" (p. 49).	Tangible Focus for Social Bonding	Increased number of college students' interactions including friendships, sentiment, and social affiliation with various groups
Enhanced Collective Self-esteem from a "winning" or respected team	"emotional identification with sports teams has an extraordinary impact on the morale of many people" (p. 51).	Enhanced Collective Self-esteem	Student's increased morale as a school member due to the successful home athletic team



Figure 2-1. Crompton's (2004) Framework

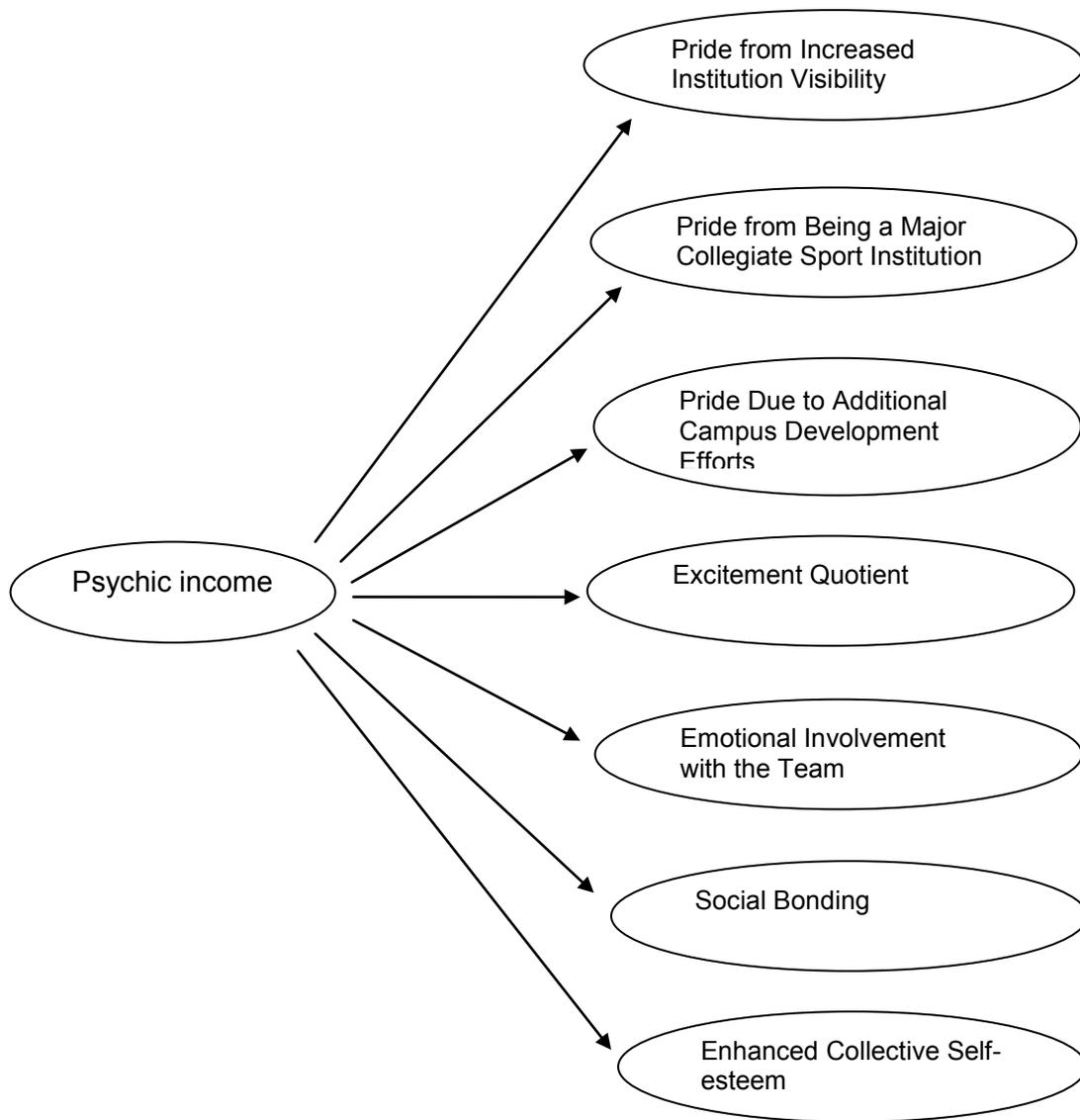


Figure 2-2. College Students' Psychic Income from Their Intercollegiate Team

## CHAPTER 3 METHODOLOGY

This chapter identified methods used in this study to examine the relationship between college satisfaction and students' psychic income from their athletic teams. In light of limited research measuring residents' psychological benefits, this study put relatively high focus on the development of a scale of psychic income as an initial stage to conduct further psychological benefit analysis studies. To obtain empirical data, online surveys were conducted. Confirmatory factor analysis (CFA) and multiple regression analysis were the primary statistical techniques. This section presents the methods in the following order: (a) item generation, (b) data collection, and (c) data analyses.

### **Item Generation**

Initially, a list of items was generated for each component of the psychic income framework through a comprehensive literature review. Table 3-1 includes the tentative initial item pool for the each dimension. Multiple measures for each construct of psychic income were developed and modified from existing college satisfaction, social impact, and attitude studies (e.g., Andereck, Valentine, Knopf, & Vogt, 2005; Burnett, 2001; Cha, 2003; Choi et al, 2001; Delamere, Wankel, & Hinch, 2001; Dyer, Gursoy, Sharma, & Carter, 2007; Fredline & Faulkner, 1998; Gursoy & Rutherford, 2004; Gramling & Freudenburg, 1992; Kim et al., 2009; Ko & Stewart, 2002; Koilias, 2005; Lee & Back, 2003; Okun et al., 1990; Sirgy et al., 2006; Teye, Sönmenz, & Sirakaya, 2002; Yu et al., 2008). Most of these items have been used previously in the fields of tourism and event management; thus, wording was appropriately modified for this intercollegiate sport

impact study. All items were measured with a Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

For refinement of the initial scales, face and content validity were assessed through a group interview, a panel of experts, and a field test. To establish a definition of the research framework, five university undergraduate students participated in the group interview session. The purpose of the group interview was exploratory to pre-test the suggested seven dimensions. The interview was informally conducted, but each interviewee was requested to return a package related to content validity. All participants verified each dimension from the suggested framework and none determined additional dimensions. The package used for the group interview is presented in Appendix A.

Following the group interview, 60 preliminary scale items were submitted to an expert panel composed of six individuals with academic backgrounds in the fields of sport, tourism, and sociology. Detailed information about the purpose of the study and specific directions for making judgments on the selection of the initial scale items were provided. The panelists reviewed the initial items with respect to their face and content validity to evaluate how well each measure covered the range of meanings within the concept (Babbie, 1992). The panel members rated each item on a 7-point Likert-type scale anchored by 1 (*not relevant at all*) and 7 (*very relevant*). The members also ensured the clarity, readability, format, and content of the study instrument and provided suggestions for rewording items (Churchill, 1979; Likert, 1968). Several items were deleted or reworded to enhance their clarity. Also, a phrase was added to some items. For example, one of the items was originally phrased "Gator football increases media

coverage of UF.” Based on the feedback from panel members, the item was changed to “I am proud because Gator football increases media coverage of UF.” The cover letter and the items for panel review are presented in Appendix B.

After the panel reviews, the remaining 45 scale items were tested and revised to identify ambiguities, misunderstandings, or other inadequacies of the instrument (Ary, Jacobs, Rajavieh, & Sorensen, 2005). The revised version of the instrument was administered to a group of students from the University of Florida, who also represented the target population. Ten individuals answered the questionnaires and provided feedback on any difficulties they had with the items. One item, “I am proud because Gator football provides UF an opportunity to improve their sport facilities,” was deleted because of its irrelevance and ambiguity. Several comments on reversal items were addressed by participants but they were intentionally included in this study to avoid survey breakoff. According to Peytchev (2009), survey respondents fail to complete all the questionnaires because of unique and common causes such as survey design, characteristics of questionnaires, respondent factors, and models for data quality. Since this current study lacks variation in question characteristics, four reversed items were retained: (a) Gator football games disturb me, (b) being a Gator football fan is difficult for me, (c) my campus life would be the same without Gator football, and (d) I don’t think that UF’s visibility is solely dependent upon Gator football.

After the field test, a pilot test was employed to test the appropriateness of the instrument and to eliminate poorly performing items (Ary et al., 2005). The online instrument was administered to pilot-test participants to assess whether the study instrument performed well after the previously described scale refinement steps (Ary et

al., 2006). The participants were 42 university students. This pilot test aimed also to further examine content validity from the perspective of the targeted population by testing the reliability of each scale dimension. To gauge the reliability of scale items in each dimension, Cronbach's alpha coefficients, corrected item-total correlations, means, standard deviations, and Cronbach's alphas if item deleted, as suggested by Hair, Black, Anderson, and Tatham (2006), were assessed. The seven Cronbach's alphas from the tested dimensions ranged from .626 to .863 indicating that the scale items in the specified factors were internally consistent except in one dimension, *social bonding*. One item, "I don't attend Gator football games in person alone," from this specific dimension was eliminated to improve its internal consistency to .792. Eliminating several other items could also have increased reliability of specific factors. However, they were retained because of their purpose as reversed items to prevent potential survey breakout. After eliminating the one item, all Cronbach's alphas for each dimension were greater than .70 (Hair et al., 2006). Other changes were not identified as needed and 43 final items were retained after the pilot data analysis. The final scale included seven factors with five to eight items representing each factor. Table 3-2 provides the results of the pilot data reliability test.

The final survey included items to measure participants' global college satisfaction levels. The following three items suggested by Sirgy et al. (2007) were used in this study because of adequate generalizability. Sirgy et al. used a sample of students from the campuses of three major universities in the United States. The main data from this current study also presented a high-reliability coefficient ( $\alpha = .957$ ). The suggested items attempt to determine overall feelings of satisfaction with the life at a

college: (a) In general, how satisfied are you with the overall quality of life at (College/University); that is, your academic and social life on campus? (b) How satisfied are you with the overall quality of life for you personally at (College/University)? (c) How satisfied, would you say, most of your friends and other classmates are with the overall quality of life at (College/University)? Table 3-3 summarizes overall college satisfaction items from several other studies. For the purposes of sample description, demographic background variables were included in the questionnaire. Participants voluntarily answered the following questions: gender, race, school classification, school enrollment status, age, annual household income range, scholarship status, and percentage of family support for college expenses.

### **Data Collection**

The population for this study was college students who were at least 18 years old and currently enrolled at the University of Florida (UF). The target intercollegiate athletic team was the University of Florida's football team. The university is located in the city of Gainesville in North Central Florida and is one of the five largest universities in the U.S. (UF, 2009). The UF football team competes in the SEC of the NCAA. After formation of UF's first varsity football team in 1906, the Gators have won eight SEC championships and three national championships in 1996, 2006, and 2008 (NCAA, 2009). The Gators are one of the top teams in the country and they typically play seven home and five away games per season. On average 90,000 fans attend each home game and there are 60,000 non-student and 21,500 student season-ticket holders (Hickman, 2009). Almost 80% of the general ticket holders travel for Gator home games (Gibson, 2002).

Research participation for this survey was voluntary and the respondents were eligible if they were currently enrolled as a student at UF. The study did not require their

active participation or involvement with the Gator football team because it examined individuals' cognitive evaluation of their team. To reduce data collection bias, this study used a uni-mode survey design, which was online data collection. The target population, UF students, had sufficient potential respondents (the total number of students in 2009 was 52,271; UF, 2009) and each participant had relatively easy Internet access compared to the general public. Therefore, an online survey design was appropriate for the study (Kraut, Olson, Banaji, Bruckman, Cohen, & Couper, 2004). Online surveys are probably the most cost-effective tool for data collection if the target population is college students or employees (Matsuo, McIntyre, Tomazic, & Katz, 2005). Additional advantages of online surveys are (a) efficient statistical compilation, (b) no time constraints for participants, (c) low cost in general, (d) higher response rates, and (e) access to unique populations (Kraut et al., 2004; Wright, 2005).

Respondents were selected by a judgment sampling method. As an extension of convenience sampling, this sampling method is commonly used when the chosen sample is representative of the entire population based on the researcher's knowledge and judgment about the population and the purpose of the study (Ary, Jacobs, Razavieh, & Sorensen, 2006; Babbie, 2007). This specific type of sampling method has relatively low costs and requires less time in the data collection process (Ary et al., 2006).

Several class instructors at UF were contacted to obtain permission to conduct the study. Five course instructors allowed the researcher to recruit potential survey participants via an e-mail invitation, as well as by visiting classes. Students from suggested courses were diverse in terms of their major and demographic

characteristics. The invitation contained a brief explanation of the purpose of the study, survey instructions, and a link to an online Web site where the survey questionnaire was posted. The data were collected for two months, beginning with the second week of April 2010. During this period, two survey reminders were sent out and a thank-you e-mail was sent at the end of the period. Respondents were assured that the information they provided would be anonymous and an informed consent form was provided to each participant on the first page of the online Web site. Participants began the survey after clicking “NEXT” if they agreed to participate in the research study and agreed to the terms addressed in the consent form. The survey instrument included three sections: an informed consent form, scale items of psychic income and college satisfaction, and participants’ demographic characteristics. The online survey is presented in Appendix C.

Prior to distributing the survey invitation, the Institutional Review Board (IRB) approved the research and acknowledged that it observed designated institutional research protocols (Ary et al., 2006). The instrument required approximately 15 minutes to complete. To determine the sample size of this study, Kline’s (2005) suggestion of least 10 respondents for each observed variable was adopted. Considering that the scale items for the main study had a total of 44 observed variables, the target sample size was 440.

### **Data Analysis**

This study was designed to develop a valid and reliable scale to measure college students’ psychic income from their big-time intercollegiate football team and to examine the link between this psychological benefit and college satisfaction. The underlying structure for this study was adopted from Crompton’s (2004) conceptual

framework of psychic income (PI). Each factor was defined, and the literature supported the model specifications in this study. Variables of each factor were assigned after three stages: (a) item generation, (b) item purification through a panel of experts and a field test, and (c) pretesting of the survey instrument through a pilot test. The main data used confirmatory factor analysis to finalize the number of factors existing within a set of variables (Hair et al., 2006; Suhr, 2006).

SPSS 15.0 (George & Mallery, 2006) and LISREL 8.51 (Jöreskog & Sörbom, 1996) were used to describe the demographic information, test reliability coefficients, and test the hypothesized measurement model. Procedures in SPSS version 15.0 (SPSS, 2006) were carried out to calculate descriptive statistics for sociodemographic variables, and various SPSS programs determined each variable's accuracy of data entry, outliers, and deviation from normality through the examination of histograms and summary descriptive statistics prior to the main analysis.

A CFA using maximum likelihood (ML) estimation was conducted to confirm whether observed items loaded on pre-specified latent constructs. The researcher used five CFA steps suggested by Tabachnick and Fidell (2006): (a) model specification, (b) identification, (c) model estimation, (d) testing model fit, and (e) model respecification. To test the overall fit of the CFA model,  $\chi^2$  goodness-of-fit and the following fit indexes were used: root mean square error of approximation (RMSEA), standardized means square residual (SRMR), non-normed fit index (NNFI), and comparative fit index (CFI). The higher chi-square test statistics ( $\chi^2$ ) indicate how well the proposed model fits the covariance matrix. However, this number is sensitive to sample size so normed chi-square (NC,  $\chi^2/df$ ) was used (Kline, 2005). Values of the normed chi-square, ranging

from 2.0 to 3.0 and as high as 5.0, have been recommended as an indicator of reasonable fit (Bollen, 1989). Because of the sample size limitations with the chi-square test, the other fit indexes were required to examine model fit.

For the RMSEA, Browne et al. (1992) suggested that values of less than .05 indicate a close fit to the model. Values in the range of .05 to .08 indicate a reasonable error or approximation, and values greater than .10 indicate poor fits. According to MacCallum, Browne, and Sugawara (1996), the value between .08 and .10 indicates mediocre fit. Standardized means square residual is based on the differences between the observed covariance matrix and the predicted covariance measuring the mean absolute value of the covariance. Therefore, lower values of SRMR are desired for the expected model fit. When the SRMR value is less than .10, it indicates a good model fit (Kline, 2005). CFI is one of the incremental or comparative fit indexes (Kline, 2005). A rule of thumb for the CFI is that values greater than .90 may well represent a reasonable approximation of the data (Hu et al. 1999). NNFI, also known as the Tucker-Lewis index (TLI), has a good fit if it is close to 1.00. Hair et al. (2006) suggested .90 as the cutoff point when the sample size is greater than 250 and the number of observed variables is more than 30. Since RMSEA does not account for sample size, RMSEA does not provide useful information with complex models when the sample size is small.

To interpret parameter estimates, to determine distinct constructs and the reliability of the scale, the following values were calculated: Cronbach's coefficient alpha ( $\alpha$ ), construct reliability (CR), and the average variance extracted (AVE). The convergent validity was assessed by its indicator loadings and its  $t$  values to test how well each indicator loads on each specified latent construct (Netemeyer, Johnson, &

Burton, 1990). Item loadings should be equal to or greater than .5, but (preferably) .7 would be considered acceptable (Hair et al., 2006). Discriminant validity was also examined to determine how distinct the constructs are from one another. This specific validity was established by examining whether the AVE for each construct is greater than the squared correlation of the two referent factors (Fornell & Larcker, 1981). Kline (2005) added that discriminant validity can be established when inter-factor correlation is below .85. The recommended cutoff point of .70 was adopted for the internal consistency ( $\alpha$ ) and CR (Nunnally & Bernstein, 1994). The reference point for AVE was .50 or higher, as suggested by Hair et al. (2006).

Lastly, hierarchical multiple regression analysis was employed to identify the predictors. This method is preferable for the investigator to control the order of entry of predictors based on theoretical considerations (Berger, 2004). To find the degree to which multiple predictors are related to the dependent variable, the square of the correlation coefficient  $R$  ( $R^2$ ) was measured (George et al., 2007) and the overall tolerance and variance inflation factor (VIF) were calculated to examine the possibility of over-fitting because of potential multicollinearity. According to Hair et al. (2008), a tolerance of greater than .10 and a VIF of less than 10 indicate a lack of multicollinearity.

Table 3-1. Related Items from Other Sport Related Studies

Dimension	Potential Item(s) in Each Dimension (Author(s), Year, Original Dimension)
Pride from Increased Institution Visibility	<p>My favorite team helps elevate the image of its community. (Gladden et al., 2002, Pride in place)</p> <p>(Kim, 2009, Community Pride as a Result of Increased Visibility, Item(s) right before the preliminary exploratory factor analysis)</p> <p>I am proud of my community</p> <ul style="list-style-type: none"> <li>... because my community was exposed to outsiders as a result of Super Bowl XLIII.</li> <li>... because outsiders know more about my community after Super Bowl XLIII.</li> <li>... because Super Bowl XLIII enhanced media visibility of my community.</li> <li>... because Super Bowl XLIII gave my community an international identity.</li> <li>... because Super Bowl XLIII helped my community to become a nationally known city.</li> <li>... because television stations broadcasted my community as well as Super Bowl XLIII.</li> </ul>
Pride from Being a Big-Time Collegiate Sport Institution	<p>My favorite team helps its citizens be proud of where they live. (Gladden et al., 2002, Pride in place)</p> <p>My favorite team brings prestige to the community. (Gladden et al., 2002, Pride in place - We may change "the community" to "the school.")</p> <p>In general, I perceive that professional sport:</p> <ul style="list-style-type: none"> <li>Brings up community image versus takes down community image. (Zhang et al., 1996, Community solidarity)</li> <li>Strengthens cultural values versus weakens cultural values. (Community solidarity - We may change "strengthen big-time collegiate sport institution.")</li> </ul> <p>(Kim, 2009, Civic Pride from Being a Major Sport Event Host City, Item(s) right before the preliminary exploratory factor analysis)</p> <p>I am proud of my community</p> <ul style="list-style-type: none"> <li>... because my community can host other major sport events in the future.</li> <li>... because my community could show the ability to host a major sport event, Super Bowl XLIII.</li> <li>... because my community gained a positive image of Super Bowl event host city.</li> <li>... because my community gained positive recognition of a major sport event host city.</li> <li>... because not many communities could host a Super Bowl game.</li> <li>... because Super Bowl XLIII enhanced the image of my community as a major city.</li> <li>... because Super Bowl XLIII gave an opportunity to show what my community can do.</li> </ul>

Table 3-1. Continued

Dimension	Potential Item(s) in Each Dimension (Author(s), year, Original Dimension)
Pride in Efforts of Additional Campus Development	<p>In general, I perceive that professional sport:</p> <ul style="list-style-type: none"> <li>Reduce crime/violence versus promotes crime/violence. (Zhang et al., 1996, Community solidarity)</li> <li>Enhances community harmony versus enhances community change (Community solidarity)</li> <li>Increases community commercial activities versus decreases community commercial activities. (Business opportunity)</li> <li>Helps community economic development versus costs community economic development (Business opportunity)</li> </ul> <p>Attracts tourists/visitors versus hampers tourists/visitors. (Zhang et al., 1996, Business opportunity)</p> <p>(Kim, 2009, Pride in efforts to resuscitate deteriorated area, Item(s) right before the preliminary exploratory factor analysis)</p> <p>I am proud of my community</p> <ul style="list-style-type: none"> <li>... because Super Bowl improved our public facilities (e.g., roads, traffic patterns, the convention center).</li> <li>... because Super Bowl XLIII helped my community to improve the appearance of the city.</li> <li>... because Super Bowl XLIII helped urban regeneration.</li> <li>... because Super Bowl XLIII improved the quality of community public services.</li> <li>... because Super Bowl XLIII improved the quality of police and fire services.</li> <li>... because Super Bowl XLIII promoted opportunities to revive the community.</li> </ul>
Enhanced Collective Self-esteem	<p>It is important that my friends see me as a fan of my favorite team. (Gladden et al., 2002, Fan identification)</p> <p>My friends and family recognize me as a fan of my favorite team. (Fan identification)</p> <p>When someone praises my favorite team, it feels like a compliment. ( Fan identification)</p> <p>When I talk about the team, I usually say “We” rather than “They.” (Fan identification)</p> <p>When I talk about my college football team, I usually say “we” rather than “they.” (Heere at al., 2007a, Attachment - Interconnection of self)</p> <p>Being a fan of my favorite NFL team is important to me. (Mahony et al., 2000)</p> <ul style="list-style-type: none"> <li>I feel like I have won when the <i>team name</i> win. (James et al., 2002, Achievement)</li> <li>I feel a personal sense of achievement when the team does well. (Achievement)</li> <li>I feel proud when the <i>team name</i> play well. (Achievement)</li> </ul> <p>In general, I perceive that professional sport: Encourages achievement and success versus discourages achievement and success. (Zhang et al., 1996, Excellence pursuit)</p> <p>One of the main reasons that I watch, read, and/or discuss sports is that doing so makes me feel good when my team wins (Wann, 1995, Self-esteem)</p> <ul style="list-style-type: none"> <li>I enjoy watching sports because it increases my self-esteem. (Self-esteem)</li> <li>To me, my favorite team’s successes are my successes and their losses are my losses. (Self-esteem)</li> </ul> <p>(Kim, 2009, Enhanced Collective Self-esteem)</p> <ul style="list-style-type: none"> <li>Hosting Super Bowl XLIII in my community is a compliment to me.</li> <li>I feel good about being a resident of my community because of hosting Super Bowl XLIII.</li> <li>Super Bowl XLIII contributed to my personal well-being.</li> <li>Super Bowl XLIII has made my community residents appreciate their way of life more.</li> <li>Super Bowl XLIII has made residents appreciate their way of life more.</li> <li>Super Bowl XLIII increased my community confidence.</li> <li>Super Bowl XLIII increased my self respect for the community.</li> <li>Super Bowl XLIII increased my sense of well-being.</li> </ul>

Table 3-1. Continued

Dimension	Potential Item(s) in Each Dimension (Author(s), year, Original Dimension)
Excitement Quotient from Games	My favorite team's games are exciting. (Gladden et al., 2002, Product delivery)
	My favorite team's games are entertaining. (Product delivery)
	My favorite team's games are enjoyable. (Product delivery)
	There is a certain natural beauty to the game of basketball. (James et al., 2002, Aesthetics)
	I appreciate the beauty inherent in the game of basketball. (Aesthetics)
	I enjoy the gracefulness associated with the sport of basketball. (Aesthetics)
	I appreciate the beauty inherent in the game. (Trail et al., 2001, Aesthetics)
	There is a certain natural beauty to the game. (Aesthetics)
	I enjoy the gracefulness associated with the game. (Aesthetics)
	I enjoy the drama of a "one run" game. (Trail et al., 2001, Drama)
	I prefer a "close" game rather than a "one-sided" game. (Drama)
	A game is more enjoyable to me when the outcome is not decided until the very end. (Drama)
	I enjoy a skillful performance by the team. (Trail et al., 2001, Physical skills)
	In general, I perceive that professional sport: Provides entertainment versus provides tension. (Zhang et al., 1996, Pastime ecstasy) Brings excitement versus brings calmness. (Pastime ecstasy)
	One of the main reasons that I watch, read, and/or discuss sports is that I get pumped up when I am watching my favorite teams (Wann, 1995, Eustress)
	One of the main reasons that I watch, read, and/or discuss sports is that I enjoy being physiologically aroused by the competition. (Eustress)
	I like the stimulation I get from watching sports. (Eustress)
I enjoy sports because of their entertainment value. (Wann, 1995, Entertainment)	
I enjoy watching, reading, and/or discussing sports simply because it is a good time. (Entertainment)	
To me, sports spectating is simply a form of recreation. (Entertainment)	
One of the main reasons that I watch, read, and/or discuss sports is for the artistic value (Aesthetic)	
One of the main reasons that I watch, read, and/or discuss sports is that I enjoy the beauty and grace of sports (Aesthetic)	
I enjoy watching sporting events because to me sports are a form of art. (Aesthetic)	
(Kim, 2009, Excitement from an Event and Visitors, Item(s) right before the preliminary exploratory factor analysis)	
I enjoyed interacting with visitors.	
I was exited by many visitors during Super Bowl XLIII.	
Super Bowl XLIII brought excitement to the community.	
Super Bowl XLIII provided entertainment to the community.	
Super Bowl XLIII provided new activities to the community.	
The night life was more exciting because of Super Bowl XLIII.	

Table 3-1. Continued

Dimension	Potential Item(s) in Each Dimension (Author(s), year, Original Dimension)
Emotional Involvement with a Team	<p>I have a strong sense of belonging to my college football team. (Heere et al., 2007a, Attachment - Interconnection of self)</p> <p>I have a strong attachment to my college football team.</p> <p>When someone criticizes my college football team, it feels like a personal insult. I am very interested in what others think about my college football team.</p> <p>The college football team's successes are my successes.</p> <p>My destiny is tied to the destiny of the college football team. (Heere et al., 2007a, Attachment - Sense of interdependence)</p> <p>The behavior of my college football team can affect me personally. What happens to my college football team will influence what happens in my life.</p> <p>What happens to my college football team will have an impact on my own life.</p> <p>I am active in organizations that include mostly fans of my college football team. (Heere et al., 2007a, Behavioral involvement)</p> <p>I participate in activities supporting my college football team, such as tailgating or attending games.</p> <p>I do not participate in activities with other fans of my college football team.</p> <p>I am actively involved in team-related activities.</p> <p>I consider my favorite team to be personally important. (Gladden et al., 2002, Product delivery)</p> <p>Being a fan of my favorite team is important to me. (Product delivery)</p> <p>Compared to how I feel about other professional teams, my favorite team is very important to me.</p> <p>I watched a lot of Cleveland Indians games on TV last season. (Funk et al., 2002, Behavior)</p> <p>How often do you wear or display Cleveland Indians team logo items (i.e., T-Shirt, sweater, jacket, hat, stickers, etc.) on your clothing, at your place of work, or where you live? (Behavior)</p> <p>Following the Cleveland Indians is a high priority among my leisure activities. (Behavior)</p> <p>During the baseball season, how closely do you follow the Cleveland Indians using various sport channels on TV, radio, local news, in the newspaper, and sport magazines? (Behavior)</p> <p>I would attend more Cleveland Indians games if I could afford the time and money. (Behavior)</p> <p>I am a committed fan of the Cleveland Indians baseball team. (Funk et al., 2002, Commitment)</p> <p>Given the choice, I would increase the amount of time I spend following (i.e., watching, reading, attending, etc.) the Cleveland Indians during the baseball season.</p> <p>I would watch a game featuring the Cleveland Indians baseball team regardless of which team they were playing against.</p> <p>How willing are you to defend the Cleveland Indians publicly, even if it causes controversy? It would be difficult for me to be a fan of the Cleveland Indians baseball team.</p> <p>How often have you participated in pregame activities related to Cleveland Indians games? (Funk et al., 2002, Direct experience)</p> <p>How often have you participated in postgame activities related to Cleveland Indians games?</p> <p>Please indicate whether you have participated in the following activities with regard to the Cleveland Indians baseball team.</p>

Table 3-1. Continued

Dimension	Potential Item(s) in Each Dimension (Author(s), year, Original Dimension)
Emotional Involvement with a Team	<p>Nothing could change my allegiance to my favorite NFL team. (Mahony et al., 2000 - Loyalty scale)</p> <p>I would watch a game featuring my favorite National Football League (NFL) team regardless of which team they are playing.</p> <p>I might rethink my allegiance to my favorite team if this team consistently performs poorly.</p> <p>I could easily be persuaded to change my favorite NFL team preference. It would be unlikely for me to change my allegiance from my current favorite NFL team to another. It would be difficult to change my beliefs about my favorite NFL team.</p> <p>My commitment to my favorite NFL team would decrease if they were performing poorly and there appeared little chance their performance would change.</p> <p>I feel like I have won when the team wins. (Trail et al., 2001, Achievement)</p> <p>I feel a personal sense of achievement when the team does well. (Achievement)</p> <p>I feel proud when the team plays well. (Achievement)</p> <p>(Kim, 2009, Emotional Involvement with Sport Event)</p> <p>Hosting Super Bowl XLIII in my community was very important to me.</p> <p>Hosting Super Bowl XLIII was great news to me.</p> <p>I enjoyed more watching football games since I know my community host Super Bowl XLIII.</p> <p>I liked to watch Super Bowl in my community.</p> <p>Super Bowl XLIII increased my fan involvement with football.</p> <p>Super Bowl XLIII increased my interests in football.</p>
Tangible Focus for Social Bonding	<p>I interact with other fans of my college football team on a daily basis. (Heere et al., 2007a, Social embeddedness)</p> <p>Of my ongoing relationships, many are with people who are fans of my college football team.</p> <p>Being a fan of my college football team is not a major factor in my relationships. Being a fan of my college football team is an important part of my social life.</p> <p>Interacting with other <i>team name</i> basketball fans is an important part of being at a game. (James et al., 2002, Social interaction)</p> <p><i>Team name</i> basketball games are great opportunities to socialize with other people.</p> <p>I like to talk with other people sitting near me at basketball games.</p> <p>The game provides an opportunity for me to spend time with my family. (James et al., 2002, Family)</p> <p>The game provides an opportunity for me to spend time with my children. (Family)</p> <p>The game provides me an opportunity to spend time with my spouse. (2002, Family)</p> <p>I like to going to game with my family. (Trail et al., 2001, Family)</p> <p>I like to going to game with my spouse. (Family)</p> <p>I like to going to game with my children. (Family)</p> <p>Interacting with other fans is a very important part of being at games. (Trail et al., 2001, Social)</p> <p>I like to talk to other people sitting near me during the games. (Social)</p> <p>Games are great opportunities to socialize with other people. (Social)</p>

Table 3-1. Continued

Dimension	Potential Item(s) in Each Dimension (Author(s), year, Original Dimension)
Tangible Focus for Social Bonding	<p>In general, I perceive that professional sport:  Generates a sense of belonging versus generates a sense of outcast. (Zhang et al., 1996, Community solidarity)  Increases family bonding versus increases family dissension. (Community solidarity)  Provides socializing opportunities versus eliminates socializing opportunities. (Pastime ecstasy)  Provides opportunity for getaways versus eliminates opportunity. (Pastime ecstasy)  Makes people feel proud versus makes people feel embarrassed. (Community solidarity)</p> <p>I enjoy watching sports more when I am with a large group of people. (Wann, 1995, Affiliation)  One of the main reasons that I watch, read, and/or discuss sports is because most of my friends are sports fans. (Affiliation)  One of the main reasons that I watch, read, and/or discuss sports is I am the kind of person who likes to be with other people. (Affiliation)</p> <p>I like to watch, read, and/or discuss sports because doing so gives me an opportunity to be with my spouse. (Wann, 1995, Family)  I like to watch, read, and/or discuss sports because doing so gives me an opportunity to be with my family. (Family)</p> <p>(Kim, 2009, Tangible Focus for Social Bonding, Item(s) right before the preliminary exploratory factor analysis)  Super Bowl XLIII increased cooperation among groups in my community.  Super Bowl XLIII increased my social interactions within my community.  Super Bowl XLIII increased opportunities to spend time with family.  Super Bowl XLIII increased sense of belongings in various community groups.  Super Bowl XLIII provided more socializing opportunities.  Super Bowl XLIII strengthened my friendships in my community.</p>

Table 3-2. Reliability Analysis of Pilot Data

		Item	Mean	S.D.	Corrected Item-Total Correlation	Cronbach Alpha if Item Deleted
Social Bonding ( $\alpha = .626$ )	sb1	Being a GF fan is an important part of my social life.	5.90	1.068	.382	.579
	sb2	GF increases my interactions with various social groups.	5.62	1.248	.459	.549
	sb3	GF gives more chances to spend time with friends.	6.14	1.117	.562	.523
	sb4	GF strengthens my friendships at UF.	5.95	1.224	.535	.526
	sb5	I don't attend GF games in person alone.	4.52	2.133	-.014	.792
	sb6	I enjoy watching GF games more when I am with a group of people	6.40	.912	.438	.571
	Sb7	GF games are great opportunities to socialize with other people.	6.38	.795	.518	.562
Excitement Quotient ( $\alpha = .786$ )	eq1	GF games amaze me.	5.98	1.093	.644	.725
	eq2	GF games are exciting.	6.67	.650	.708	.731
	eq3	GF games disturb me.	6.56	.867	.401	.784
	eq4	GF games provide excitement to UF.	6.71	.554	.608	.750
	eq5	I enjoy watching GF games.	6.64	.533	.675	.726
	eq6	I recommend going to UF to others because GF games are so exciting.	5.67	1.572	.447	.810
Emotional Involvement ( $\alpha = .863$ )	ei1	Following GF is a high priority among my campus activities.	5.74	1.363	.716	.833
	ei2	I participate in activities supporting GF (such as tailgating or attending games.)	6.38	.795	.752	.835
	ei3	I have a strong sense of association with GF.	6.00	1.104	.791	.826
	ei4	I am a committed fan of GF.	6.31	1.137	.827	.823
	ei5	I often display myself as a GF fan (e.g., T-shirts, jackets, hats, stickers, etc.).	6.21	.925	.669	.840
	ei6	Being a GF fan is difficult for me.	1.71	1.132	.478	.859
	ei7	When someone praises GF, it is a compliment to me.	4.98	1.660	.473	.861
	ei8	My campus life would be the same without GF.	5.33	1.720	.361	.886
Collective Self-esteem ( $\alpha = .805$ )	cse1	GF makes me feel good about being a part of UF.	6.45	1.087	.689	.748
	cse2	GF increases my sense of belonging to UF.	6.15	1.216	.719	.723
	cse3	I perceive the GF team as "our" team rather than "a" team.	6.31	.897	.532	.786
	cse4	GF brings UF student together.	6.43	1.252	.618	.771
	cse5	I feel better about myself because I am a part of the Gator nation.	5.79	1.317	.508	.806
Pride from a Major Collegiate Sport Institution ( $\alpha = .763$ )	pmi1	I am proud because GF is an important component of UF's image as a major college sport powerhouse.	6.48	.594	.696	.697
	pmi2	I am proud because GF brings a prestigious sport image to UF.	6.50	.707	.691	.699
	pmi3	I am proud because GF increases UF's image as a major university in the U.S.	6.41	1.161	.619	.706
	pmi4	I am proud because UF students feel proud of UF as a major football university.	6.40	.885	.614	.708
	pmi5	I am proud because UF gains a positive image as a result of being a major football university.	6.40	1.037	.732	.679
	pmi6	I am proud because GF improves the profile of UF.	6.37	.767	.748	.679
	pmi7	I think that UF's image as a research institution is more important than its image as a college football school.	3.60	1.726	-.151	.905
Pride from Increased Institution Visibility ( $\alpha = .758$ )	piv1	I am proud because GF increases the visibility of UF nationally.	6.55	.633	.712	.675
	piv2	I am proud because GF increases media coverage of UF.	6.67	.526	.579	.708
	piv3	I am proud because GF is an important element in UF's national recognition.	6.34	.825	.660	.684
	piv4	I don't think that UF's visibility is solely dependent upon GF.	2.95	1.284	.065	.872
	piv5	I am proud because people know more about UF due to GF.	6.48	.814	.639	.685
	piv6	I am proud because mass media report more about UF due to GF.	6.19	.862	.646	.680
Pride Due to Additional Campus Development Efforts ( $\alpha = .804$ )	pad1	I am proud because GF brings additional income to UF.	6.14		.570	.773
	pad2	I am proud because GF diversifies the local economy	5.60		.544	.786
	pad4	I am proud because GF provides UF an opportunity to improve their sport facilities.	4.19		.667	.746
	pad5	I am proud because GF promotes additional general campus facility development.	6.29		.641	.750
	pad6	I am proud because GF brings additional income to the community.	5.95		.549	.779

Table 3-3. Items for Overall Quality of Campus Life

Author(s)	Items
Yu et al. (2008) (Overall quality of life)	My life is close to my ideal in general. Various conditions that affect my life are very good. I am satisfied with my current life. I've been achieving important things throughout my life so far. If I were to born again, I would maintain my current life style.
Diener et al. (1985)	In most ways my life is close to my ideal. The conditions of my life are excellent. I am satisfied with my life. So far I have gotten the important things I want in life. If I could live my life over, I would change almost nothing.
Noel-Levitz (1994)	So far, how has your college experience met your expectations? ___ Much worse than I expected. ___ Quite a bit worse than I expected. ___ Worse than I expected. ___ About what I expected. ___ Better than I expected. ___ Quite a bit better than I expected. ___ Much better than I expected. Rate your overall satisfaction with your experience here thus far. ___ Not satisfied at all ___ Not very satisfied ___ Somewhat dissatisfied ___ Neutral ___ Somewhat satisfied ___ Satisfied ___ Very satisfied All in all, if you had it to do over again, would you enroll here? ___ Definitely not ___ Probably not ___ Maybe not ___ I don't know ___ Maybe yes ___ Probably yes ___ Definitely yes
Sirgy et al. (2007)	In general, how satisfied are you with the overall quality of campus life at (College/University); that is, your academic and social life on campus? How satisfied are you with the overall quality of campus life for your personally at (College/University)? How satisfied, would you say, most of your friends and other classmates are with the overall quality of campus life at (College/University)?

## CHAPTER 4 RESULTS

This chapter contains the results of the study in the following sections: (a) descriptive statistics, (b) confirmatory factor analysis, and (c) hierarchical multiple regression analysis. Seven hundred thirty-three college students were contacted to provide the data. Among the 673 returned cases, 3 were incomplete and 7 participants were graduate students. Thus, 663 usable cases were included in the data analysis. In this stage, missing data were treated and they were replaced by the median of all nearby points.

### **Descriptive Statistics**

#### **Demographic**

Characteristics of respondents are presented in Table 4-1. The proportion of female participants (58.5%) was higher than that of male participants (41.5%). The group of senior students was the largest portion of participants (45.2%), followed by juniors (31.1%), sophomores (16%), and freshmen (7.7%). The ethnic majority of the participants was white/Caucasian (61.7%).

#### **Descriptive Statistics of Scales**

Descriptive statistics including mean and standard deviation from the psychic income variables are presented in Table 4-2. All 43 items had a mean score greater than 4.0 (i.e., midpoint on 7-point Likert-type scale). Overall, the impact of big-time intercollegiate football on students was considered positive. Of all the variables, "My campus life would be the same without Gator football," had the lowest mean score ( $M = 4.65$ ,  $SD = 2.04$ ) and "Gator football brings UF students together" had the highest mean score ( $M = 6.65$ ,  $SD = .76$ ). Additionally, skewness and kurtosis for the items were

examined. Distributions for 4 of the 43 observed variables were significantly skewed at  $p < .01$ . Moreover, 24 of the total items had greater than a 3.0 cutoff point (Chou & Bentler, 1995). To deal with non-normal data, items were transformed to continuous variables (Algina, 2008).

### **Confirmatory Factor Analysis**

A preliminary CFA was conducted to test the initial measurement model, seven factors and 43 items. Chi-square was significant ( $\chi^2 = 5059.04$ ,  $df = 946$ ,  $p < .01$ ), indicating that the hypothesized model and the observed model were statistically significant. Because chi-square values are known to be sensitive to sample size, alternative fit indexes were further examined, including normed chi-square, RMSEA, SRMR, and NNFI (Algina, 2008). Although Bollen (1989) noted that values of normed chi-square as high as 5.0 could be recommended as indicating a reasonable fit, the normed chi-square ( $\chi^2/df = 5.35$ ) was above the suggested cutoff value (i.e.,  $< 3.0$ ; Bollen, 1989). The value of SRMR (.073) was within the range of acceptable fit ( $\leq .10$ ; Kline, 2005). However, other goodness-of-fit indexes of this initial model were not in the range of acceptable fit. The RMSEA value indicated the initial model showed a poor fit (RMSEA = .091, 90% CI = .088 to .093; Hu & Bentler, 1999). The values of CFI and NNFI were lower than the recommended cutoff ratio ( $> .90$ ; Hu et al., 1999).

The overall lack of fit to the data and modification indexes (MI), as well as poor indicator loadings ( $\lambda$ ), supported model respecification. All four items that were reverse-coded variables showed poor performance in factor loading ( $< .5$ ) and were removed from the model. To achieve convergent validity, seven additional items were removed during the stage of model respecification (Anderson & Gerbing, 1988). Several modification indexes revealed high residual and correlations with other items. All of the

modification indexes (delta,  $\delta$ ) greater than .5 were reviewed to evaluate and modify the model (Jöreskog et al., 1996). The item, “I enjoy watching Gator football games more when I am with a group of people,” had the highest residual value ( $\delta$ ) and a poor modification index with the other items. Five items were removed after careful consideration of both statistical and theoretical justifications.

As a result of the model respecification, 16 items were removed and the seven-factor model with 27 items was conceptualized: *social bonding* (3 items), *excitement* (3 items), *emotional involvement* (5 items), *collective self-esteem* (3 items), *pride from being a major collegiate sport institution* (5 items), *pride from increased institution visibility* (4 items), and *pride due to additional campus development efforts* (4 items). Consequently, the modified seven-factor model with 27 items showed a better fit to the data, with  $\chi^2 = 1223.66$  ( $df = 303$ ,  $p < .01$ ), the normed chi-square ( $\chi^2/df = 4.03$ ), RMSEA = .071 (90% CI = .067 to .071), SRMR = .045, NNFI = .92, and CFI = .93. (See Table 4-3.)

To ensure the evidence of convergent validity, factor loadings and  $t$ -values were examined. According to Hair et al. (2006), all factor loadings were above the cutoff (.50) and ranged from .60 to .91. The  $t$ -values for all variables ranged from 11.05 to 16.68 ( $p < .05$ ). The results suggested that each item significantly contributed to its underlying construct and the phi coefficients ( $\Phi$ ), measuring inter-factor correlations among the latent variables. The lowest phi coefficient was .44 (between *social bonding* and *pride from increased institution visibility*). The phi between *pride from being a major collegiate sport institution* and *pride from increased institution visibility* had a high inter-factor correlation ( $\Phi = .88$ ). As a result of this high factor correlation, a six-factor nested model

with these two latent variables was assessed. However, the six-factor model did not improve the model fit, thereby leading to the decision to retain the previously discussed seven-factor model. Table 4-4 shows inter-factor correlations from this confirmatory factor analysis

The reliability measures of the preliminary model had already demonstrated high internal consistency of the factors and respective items. The final confirmed fit model had higher Cronbach's alpha ( $\alpha$ ), construct reliability (CR), and average variance extracted (AVE). Alpha reliability coefficients and CR coefficients were well above the .70 criterion (Hair et al., 2006; Numnally et al., 1994). The *pride due to additional campus development efforts* factor had the lowest Cronbach's alpha and CR ( $\alpha = .78$ , CR = .79). The other factor, *emotional involvement*, had the highest Cronbach's  $\alpha$  and CR ( $\alpha = .91$ , CR = .91). The AVE values ranged from .49 (*pride due to additional campus development efforts*) to .69 (*social bonding*); see Table 4-5.

### **Hierarchical Multiple Regression Analysis**

The hierarchical analysis in multiple regression was employed to identify the best predictors of college satisfaction. To refine the data for the next analysis, data transformation was attempted, including log-transformation and square-root transformation. Two blocks of independent variables were entered in the regression model. The first block contained four controlled demographic and social variables, including gender, home game attendance, recreational activity participation, and game-day activity participation, based on the review of literature. The second block contained the seven psychic income variables. The measures of each psychic income factor were an average of scale items in each factor: MeanE (excitement), MeanEI (emotional involvement), MeanSB (social bonding), MeanCSE (collective self-esteem), MeanPMI

(pride from being a major institution), MeanPIV (pride from increased visibility), and MeanPAD (pride from additional development).

In the final model, five significant independent variables (gender, game-day activity participation, MeanE, MeanEI, and MeanPAD) were noted, collectively explaining approximately 38% of the variance in college satisfaction ( $R^2 = .37.7$ ; see Table 11). The psychic income factors increased approximately 26% ( $\Delta R^2 = .257$ ,  $p < .001$ ) of the variability in the outcome accounted for by the predictors. Among the remaining three psychic income measures, MeanE showed the largest impact in the model ( $\beta = .250$ ,  $t(631) = 5.223$ ,  $p < .001$ ). The rest of the standardized beta values ( $\beta$ ) were 0.217 (MeanEI,  $t(631) = 4.448$ ,  $p < .001$ ), and 0.124 (MeanEI,  $t(631) = 2.510$ ,  $p < .05$ ).

The overall tolerance and variance inflation factor were used to examine the possibility of multicollinearity. All tolerance and VIF of independent variables showed no significant combined effects of two or more variables. MeanE had the smallest tolerance and the largest VIF, which is the inverse of the tolerance value (Tolerance = .430 and VIF = 2.326). The tolerance levels of other independent variables were greater than .10 and their reverse values (VIF) were less than 10 (Hair et al., 2008; O'Brien, 2007).

Table 4-1. Demographic Characteristics of Participants

Variable	Category	Frequency (N=663)	Percentage (%)
Gender	Female	387	58.4
	Male	275	41.5
	Missing	1	.2
School Classification	Freshman	51	7.7
	Sophomore	106	16.0
	Junior	206	31.1
	Senior	300	45.2
Race	White/Caucasian	409	61.7
	African American	115	17.4
	Hispanic	80	12.1
	Asian	31	4.7
	Native American	2	.3
	Pacific Islander	3	.5
	Other	21	3.2
	Missing	2	.3
Age	18 or Under	24	3.6
	19-20	239	36.0
	21-22	350	52.8
	23-24	29	4.4
	25-26	11	1.7
	27 or Over	10	1.5
Scholarship	No	146	22.0
	Yes	515	77.7
	Missing	2	.3
Parent Support	No	222	33.5
	Yes	441	66.5
High school Athletic member	No	177	26.7
	Yes	483	72.9
	Missing	3	.5
Athlete in any varsity sport at UF	No	603	91.0
	Yes	54	8.1
	Missing	6	.9
Recreational Sport participation	No	327	49.3
	Yes	331	49.9
	Missing	5	.8
Game day participation	No	108	16.3
	Yes	554	83.6
	Missing	1	.2

Table 4-2. Descriptive Statistics for Psychic Income Scale Items

		Item	Mean	S.D.	Skewness	Kurtosis
Social Bonding ( $\alpha = .626$ )	sb1	Being a GF fan is an important part of my social life.	5.49	1.556	-1.132	.758
	sb2	GF increases my interactions with various social groups.	5.51	1.352	-1.030	1.027
	sb3	GF gives more chances to spend time with friends.	6.14	1.139	-1.991	4.942
	sb4	GF strengthens my friendships at UF.	5.80	1.331	-1.330	1.836
	sb6	I enjoy watching GF games more when I am with a group of people	6.38	.973	-2.052	5.242
	Sb7	GF games are great opportunities to socialize with other people.	6.24	.993	-1.899	5.421
	Excitement Quotient ( $\alpha = .786$ )	eq1	GF games amaze me.	5.89	1.234	-1.466
eq2		GF games are exciting.	6.62	.770	-3.209	15.100
eq3		GF games disturb me.	6.46	1.016	-2.708	8.474
eq4		GF games provide excitement to UF.	6.64	.750	-3.469	17.887
eq5		I enjoy watching GF games.	6.42	.937	-2.556	8.967
eq6		I recommend going to UF to others because GF games are so exciting.	5.42	1.619	-1.067	.437
Emotional Involvement ( $\alpha = .863$ )	ei1	Following GF is a high priority among my campus activities.	5.18	1.713	-.835	-.262
	ei2	I participate in activities supporting GF (such as tailgating or attending games.)	6.12	1.238	-2.014	4.569
	ei3	I have a strong sense of association with GF.	5.54	1.486	-1.151	.900
	ei4	I am a committed fan of GF.	5.94	1.410	-1.671	2.624
	ei5	I often display myself as a GF fan (e.g., T-shirts, jackets, hats, stickers, etc.).	5.71	1.500	-1.432	1.584
	ei6	Being a GF fan is difficult for me.	6.21	1.294	-2.125	4.397
	ei7	When someone praises GF, it is a compliment to me.	5.33	1.523	-.955	.430
	ei8	My campus life would be the same without GF.	4.65	2.037	-4.459	-1.142
Collective Self-esteem ( $\alpha = .805$ )	cse1	GF makes me feel good about being a part of UF.	6.60	.848	-3.183	13.636
	cse2	GF increases my sense of belonging to UF.	6.17	1.194	-2.001	4.775
	cse3	I perceive the GF team as "our" team rather than "a" team.	6.26	1.119	-2.323	6.946
	cse4	GF brings UF student together.	6.65	.761	-3.651	19.272
	cse5	I feel better about myself because I am a part of the Gator nation.	5.81	1.309	-1.336	1.864
Pride from Being a Major Collegiate Sport Institution ( $\alpha = .763$ )	pmi1	I am proud because GF is an important component of UF's image as a major college sport powerhouse.	6.43	.864	-2.257	7.759
	pmi2	I am proud because GF brings a prestigious sport image to UF.	6.42	.851	-2.107	6.909
	pmi3	I am proud because GF increases UF's image as a major university in the U.S.	6.33	.968	-2.023	5.699
	pmi4	I am proud because UF students feel proud of UF as a major football university.	6.39	.956	-2.283	7.469
	pmi5	I am proud because UF gains a positive image as a result of being a major football university.	6.25	1.026	-1.935	4.859
	pmi6	I am proud because GF improves the profile of UF.	6.22	.971	-1.734	4.255
	pmi7	I think that UF's image as a research institution is more important than its image as a college football school.	4.96	1.487	-.547	-.041
Pride from Increased Institution Visibility ( $\alpha = .758$ )	piv1	I am proud because GF increases the visibility of UF nationally.	6.40	.892	-1.977	5.492
	piv2	I am proud because GF increases media coverage of UF.	6.49	.846	-2.269	6.966
	piv3	I am proud because GF is an important element in UF's national recognition.	6.26	.938	-1.699	4.215
	piv4	I don't think that UF's visibility is solely dependent upon GF.	5.02	1.420	-.736	.033
	piv5	I am proud because people know more about UF due to GF.	6.17	1.018	-1.624	3.681
	piv6	I am proud because mass media report more about UF due to GF.	6.07	1.097	-1.507	2.774
Pride Due to Additional Campus Development Efforts ( $\alpha = .804$ )	pad1	I am proud because GF brings additional income to UF.	6.23	.998	-1.608	3.128
	pad2	I am proud because GF diversifies the local economy	5.56	1.266	-.728	.288
	pad4	I am proud because GF provides UF an opportunity to improve their sport facilities.	6.12	.989	-1.370	2.584
	pad5	I am proud because GF promotes additional general campus facility development.	5.86	1.153	-1.241	1.883
	pad6	I am proud because GF brings additional income to the community.	6.27	1.039	.549	3.599

Table 4-3. Model Fit Comparison (n = 663)

Model	$\chi^2$	df	$\chi^2/df$	RMSEA	SRMR	CFI	NNFI
7-factor, 44 items	5059.04	946	5.35	.091	.072	.83	.82
7-factor, 39 items	3747.18	681	5.50	.090	.072	.83	.82
6-factor, 39 items	3878.58	687	5.66	.092	.073	.82	.81
7-factor, 35 items	3203.29	539	5.94	.093	.070	.84	.83
7-factor, 33 items	2734.81	474	5.77	.090	.069	.86	.84
7-factor, 30 items	1910.20	384	4.97	.079	.054	.89	.88
7-factor, 27 items	1223.66	303	4.03	.071	.045	.93	.92

Table 4-4. Interfactor Correlations from the Confirmatory Factor Analysis (n = 663)

	SB	EQ	EI	CSE	PMI	PIV	PAD
SB	1.0						
EQ	.61*	1.0					
EI	.63*	.60*	1.0				
CSE	.85*	.77*	.64*	1.0			
PMI	.52*	.69*	.57*	.60*	1.0		
PIV	.44*	.60*	.53*	.51*	.88**	1.0	
PAD	.51*	.57*	.56*	.49*	.75*	.87*	1.0

Note. SB = Social bonding, EQ = Excitement quotient, EI = Emotional involvement, CSE = Collective self-esteem, PMI = Pride from being a major collegiate sport institution, PIV = Pride from increased institution visibility, PAD = Pride due to additional campus development efforts

\* Correlation significant at the .05 level

\*\* Correlation significant at the .01 level

Table 4-5. Final Model's Factor Loadings, Critical Ratios, Cronbach Alpha, Construct Reliability, Average Variance Extracted (n = 663)

Variables	Factor Loadings	Cronbach Alpha	CR	AVE
<b>Social Bonding</b>				
		.86	.87	.69
sb2. GF* increases my interactions with various social groups.	.71			
sb3. GF gives more chances to spend time with friends.	.87			
sb4. GF strengthens my friendships at UF.	.90			
<b>Excitement Quotient</b>				
		.79	.84	.64
eq1. GF games amaze me.	.71			
eq2. GF games are exciting	.86			
eq4. GF games provides excitement to UF.	.82			
<b>Emotional Involvement</b>				
		.91	.91	.68
ei1. Following Gator football is a high priority among my campus activities.	.80			
ei2. I participate in activities supporting GF (such as tailgating or attending games.)	.81			
ei3. I have a strong sense of association with GF.	.86			
ei4. I am a committed fan of GF.	.91			
ei5. I often display myself as a GF fan (e.g., T-shirts, jackets, hats, stickers, etc)	.73			
<b>Collective Self-esteem</b>				
		.83	.84	.64
cse1. GF makes me feel good about being a part of UF.	.77			
cse2. GF increases my sense of belonging to UF.	.88			
cse4. GF brings UF student together.	.74			
<b>Pride from Being a Major Collegiate Sport Institution</b>				
		.90	.90	.64
pmi1. I am proud because GF is an important component of UF's image as a major college sport powerhouse.	.81			
pmi2. I am proud because GF brings a prestigious sport image to UF.	.79			
pmi3. I am proud because GF increases UF's image as a major university in the U.S.	.72			
pmi5. I am proud because UF gains a positive image as a result of being a major football university.	.84			
pmi6. I am proud because GF improves the profile of UF.	.84			
<b>Pride from Increased Institution Visibility</b>				
		.86	.87	.62
piv1. I am proud because GF increases the visibility of UF nationally.	.81			
piv3. I am proud because GF is an important element in UF's national recognition.	.85			
piv5. I am proud because people know more about UF due to GF.	.74			
piv6. I am proud because mass media report more about UF due to GF.	.74			
<b>Pride Due to Additional Campus Development Efforts</b>				
		.78	.79	.49
pad1. I am proud because GF brings additional income to UF.	.60			
pad2. I am proud because GF diversifies the local economy.	.62			
pad4. I am proud because GF provides UF an opportunity to improve their sport facilities.	.82			
pad5. I am proud because GF brings additional income to the community.	.75			

Table 4-6. Results of Hierarchical Analysis

Variable	Unstandardized Coefficients		Standardized Coefficients, $\beta$	t- stat	Sig.	Collinearity Statistics	
	B	SE				Tolerance	VIF
Constant	1.401	.513		2.731	.007		
Gender	.239	.080	.125	2.988	.003	.814	1.229
School classification	.009	.039	.010	.243	.808	.890	1.123
Annual Household Income - Myself	-.066	.066	-.039	-1.005	.316	.940	1.064
Annual Household Income - Household	.024	.019	.053	1.234	.218	.761	1.313
Scholarship	-.152	.089	-.066	-1.706	.089	.961	1.040
Family support	-.079	.084	-.040	-.938	.349	.799	1.252
Home game attendance	-.010	.018	-.027	-.576	.565	.674	1.484
Member of High school sport team	-.006	.083	-.003	-.077	.938	.888	1.126
Athlete in varsity sport at UF	-.128	.148	-.034	-.863	.389	.907	1.102
Recreational sport participation	.166	.085	.088	1.950	.052	.697	1.436
Game day participation	.210	.113	.081	1.863	.063	.758	1.319
MeanSB	.026	.049	.031	.530	.596	.412	2.430
MeanE	.161	.068	.141	2.380	.018	.405	2.468
MeanEI	.108	.043	.146	2.481	.014	.412	2.841
MeanCSE	-.004	.073	-.004	-.056	.956	.352	2.427
MeanPMI	.279	.077	.236	3.606	.000	.334	2.994
MeanPIV	-.213	.079	-.185	-2.698	.007	.303	3.302
MeanPAD	.329	.066	.304	5.003	.000	.387	2.583
Dependent Variable: MeanCS	df1	7	R	.630	Adj. R <sup>2</sup>	.372	
	df2	421	R <sup>2</sup>	.397	$\Delta R^2$	.246	
	$\Delta F$	24.565	Sig. $\Delta R^2$	.000			

## CHAPTER 5 DISCUSSION

The primary purpose of this study was to explore how intercollegiate athletic teams influence college students' psychic income and their college satisfaction. A great amount of research has attempted to examine college students' perceptions of their overall college life (e.g., Cha, 2003; Koiliias, 2005; Sirgy et al., 2006). However, not much focus has been given to explaining the relationship between college sports and student college satisfaction despite the notion that collegiate athletics are a major segment of campus life for most big-time sport universities. In addition, the study of sport's effects on individuals' affect and cognition has long been particularly interesting to scholars who study impact analysis (e.g., Crompton, 2004; Horne et al., 2006; Gursoy et al., 2002; Ritchie et al., 1991; Ritchie, 1993; Teye et al., 2005). Therefore, the current study was designed to investigate student psychic income from their intercollegiate athletics to provide a conceptual model, to develop a valid and reliable scale to measure the latent variable, and to examine the relationship between students' psychic income and their satisfaction with college life.

This chapter provides a discussion of the results as described in Chapter 4. The discussion begins with a review of the conceptual model. Then, the results from the various analyses throughout the study are explained and summarized. Lastly, possible study limitations and future directions are discussed.

### **Review of the Conceptual Framework**

College sport did not have significant value in American culture prior to the mid-1980s; however, it became an important segment of the sport industry (Gerdy, 2000; Masteralexis, Barr, & Hums, 2005; Smith, 2004). Its business aspects attract more

attention from communities, college administrators, and business entities due to the substantial increase of media coverage of intercollegiate athletics (Masteralexis et al., 2005; Leeds et al., 2008). In addition, college sport has served as an important catalyst to generate students' pride, excitement, attachment, and support for future campus development (Duderstadt, 2000; NIRSA, 2004; Noll, 2004; Shulman et al., 2001; Sperber, 2000). Based on its tremendous popularity and influence, most college satisfaction studies did not pay attention to the collegiate sport itself. However, the non-tangible impact analysis derived from sport teams and events is potentially of interest as an addition to a growing body of scholarship in this area (e.g., Andereck et al., 2000; Choi et al., 2005; Horne et al., 2006; Kim et al., 2006; Kim et al., 2010; Gursoy et al., 2002).

Currently, there is no generally accepted model to measure individuals' psychological benefits from sport teams or events (Kim et al., 2010). Crompton (2004) suggested a seven-dimension psychic income conceptual paradigm, explaining how residents feel with reference to the professional teams that are housed in publicly funded facilities. Adopting Crompton's framework, Kim et al. (2008) investigated sport mega event host-residents' psychological benefits from the annual Daytona 500. Crompton's paradigm was also implanted in Kim and Walker's study (2010) to measure community members' perception toward one-time sport mega events, such as the Super Bowl. As a sequential study of psychic income, the current study empirically tested college students' psychic income from their collegiate sports, specifically a football team. Unlike the previous two studies (Kim et al., 2008; Kim et al., 2010), the

suggested framework in this study reflected a psychological context similar to Crompton's proposal because the impact of team was tested.

### **Discussion of the Results**

The intangible value of big-time intercollegiate football to students goes beyond the monetary impact; thus, this study sought to develop an SPI construct which is independent of economic criteria. To formulate the preliminary questionnaire, content validity was established by a comprehensive literature review, an expert review, a field test, and a pilot study. Confirmatory factor analysis and reliability tests were employed for the final purification of the SPI. The reliability coefficients were greater than a widely accepted cutoff criterion throughout the scale in both the pilot study and the main study. CFAs validated the psychometric properties of the SPI and provided evidence of adequate construct validity. Chi-square values and the goodness-of-fit indexes indicated the final seven-factor model with 27 items fit to their latent variable. There were relatively high correlations between some of the constructs, between *pride from being a major collegiate sport institution* and *pride from increased institution visibility*; however, tests of pairs of constructs suggested insignificant discriminant validity issues.

Throughout the study, the tests of the measurement model established the validity and reliability of the items of the SPI. The study provided further evidence of the usability of the SPI and Crompton's (2004) conceptual framework by empirically testing within a collegiate sport setting. The validated seven factors were applicable to college sport and confirmed students' perception of the impact of their football team. The lowest mean value of dimension was 5.70 (*emotional involvement*, SD = 1.27) and the highest was 6.47 (*collective self-esteem*, SD = .82). The recent success of University of Florida football may enhance students' perceptions of their home team. Unsurprisingly,

successful intercollegiate teams increase the opportunities for media coverage, institution image enhancement, excitement to the students, and students' pride (e.g., Duderstadt, 2001; Gibson, 2002; Heere et al., 2007b; Madrigal, 2001; Sperber, 2000; Wann et al., 2003)

Despite any potential arguments regarding the true impact of college sports, intercollegiate athletics are generally treated in a positive manner by administrators, students, and community members (Brand, 2006; Gerdy, 2000; McCormics et al., 1987; Pope et al., 2009; Shulman et al., 2001). As one social aspect of a college campus, intercollegiate sports elaborate on the quality of college life (Sirgy et al., 2006; Yu et al., 2008). This study explained 40% of overall college satisfaction through a number of demographic variables and seven psychic income factors. Significant predictors included gender, excitement, emotional involvement, pride from being a major collegiate sport institution, pride from increased institution visibility, and pride due to additional campus development efforts. Interestingly, pride from increased visibility reduced overall college satisfaction. College students may appreciate their institution's prestigious image, but not mere visibility. Additionally, the other two pride factors explained more than 50% of college satisfaction; thus, they might influence the last pride factor, pride from increased visibility.

Several studies claimed that biosocial variables such as gender and age may not be strong influences on individuals' subjective well-being (Campbell, 1981; Cha, 2003; Diener et., 1999). However, this study revealed that male college students have relatively positive college satisfaction. Past studies have shown a strong relationship between college satisfaction and student participation in athletic activities (NIRSA,

2009; McGuinn et al., 2001; Varca et al., 1984); this study also confirmed that recreational activity participation and game-day participation enhanced overall college satisfaction. Half of the survey participants were involved in recreational sport in the University of Florida, and they had a positive relationship with their college satisfaction. Some studies indicated that collective self-esteem is a relatively influential predictor of life satisfaction (Campbell, 1981; Cha, 2003; Chow, 2005; Diener et al., 1999). In contrast, this study found that collective self-esteem was not one of the variables explaining quality of college life. Instead, excitement and emotional involvement were the primary psychic income factors enhancing college satisfaction.

### **Limitations and Future Directions**

The study attempted to develop a valid and reliable instrument capable of measuring college students' psychic income from their intercollegiate teams. However, some limitations should be considered. First, the proposed construct should be generalized to different settings in colleges in terms of the size of the athletic department budget and the collegiate sports culture. The judgment sampling method in this study also restricted the study's generalizability because the sample comprised only undergraduate students from one region in the country. Future studies should use a more representative sampling method and data. Second, the participants in this study recently experienced great success in intercollegiate sports, two national football and two men's basketball championships in the last four years. The selected athletic program also had star power, such as quarterback Tim Tebow and Coach Urban Meyer. Therefore, the generalizability of the study findings may be limited. Third, to develop a more in-depth understanding of the psychic income construct, further research is necessary because potential PI dimensions might be omitted from Crompton's (2004)

suggested paradigm. In addition, the suggested constructs might be merged together due to similarity. For example, two constructs in this study, *pride from being a major collegiate sport institution* and *pride due to additional campus development efforts*, had relatively high correlations. Although the six-factor model did not show improved model fit, individuals' perception of those pride resources may have close meanings. Fourth, future research might examine college satisfaction with additional variables in the personality domain (Cha, 2003; Hofer et al., 2008). According to Hofer et al. (2008), perception of satisfaction can be emotional or cognitive in nature; thus, the suggested independent variables, or psychic income paradigm, require clarification in these two categories.

Despite the listed limitations, the current study provided an important step toward a better understanding of psychic income, which is one segment of social impact analysis measurement. This empirical study validated Crompton's (2004) conceptual framework and will prove useful for sport practitioners, marketers, and college administrators. Practitioners can modify the suggested model and items to measure college students' psychological benefits from intercollegiate sport to rationalize funding to college sport. Marketers can implement specific strategies using intercollegiate sport to communicate with potential consumers. They can use the seven constructs to specify the details. Since the integral and visible role of intercollegiate sport is important, college administrators can use the suggested scales to assess the level of students' psychic income from the school team as well as their ongoing college satisfaction.

Today, intercollegiate sport is popular on both regional and national scales and is a marketing tool. The findings of this study will help explain why college sports receive

increasingly more television air time and their business aspects are becoming acceptable to college administrators and entrepreneurs. In addition, the findings of this study will fulfill the call for supplementary constructs of college life.

APPENDIX A  
PANEL OF EXPERT

March 3, 2010

Dear Reviewer(s),

Thank you for considering my request to be a member on the expert panel for review of my research instrument. I know this will potentially be a bit lengthy process (15 - 30 min.), so I thank you in advance.

The purpose of this study is to explore how college students' psychological benefits from the school's athletic teams influence their satisfaction with college. Specifically, the current study will develop the scale of psychic income (SPI). The term, psychic income, has been used in this study to represent emotional and psychological benefits that individuals perceive, even though they do not physically attend events or are not involved in organizing them (Crompton, 2004).

The target intercollegiate athletic team is the University of Florida's football team and the target population for this study is college students who are 18 years of age or older and who are currently enrolled at the University of Florida.

I am requesting your help in further developing the scale items. Please review the 60 items with respect to their face and content validity and rate each item's relevance under the suggested dimension as well as clarity based on wording and format. You may also add or delete any new factor(s) and/or item(s) that you feel should be included in this study.

I would like to pick up the completed packets by Thursday March 18th. I appreciate your assistance even if you are unable to return them by this time frame. When you finish the packet, please contact me via email or telephone and I will pick them up from whatever location you specify.

Again, thank you for your time and assistance.

Sincerely,

Woosoon Kim  
University of Florida  
Doctoral Student  
College of Health and Human Performance  
Dept. of Tourism, Recreation and Sport management  
Sport Management  
Florida Gym, 330B  
Phone: (352) 281-5020  
E-mail: [kimwo@ufl.edu](mailto:kimwo@ufl.edu)

Please rate each item's **relevance** under the suggested dimension and also its **clarity** based on wording and format.  
**“Not Relevant at all” (1) to “Very Relevant” (5), and “Not Clear at all” (1) to “Very Clear” (5)**  
Please also provide any your suggestions and comments to improve each item and dimension.

<b>Pride from Increased Institution Visibility</b>					
<b>Dimension definition &amp; Items</b>	<b>Relevance</b>		<b>Clarity</b>		
“Student’s strong sense of self-respect due to increased institution’s visibility nationally and internationally owing to their intercollegiate team”	Not relevant at all	Very relevant	Not clear at all	Very clear	Any your suggestions to improve each item.
1. Following Gator football is a high priority among my leisure activities.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
2. Gator football elevates the visibility of the university nationally.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
3. Gator football enhances the media coverage of the school.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
4. UF becomes a nationally known university because of Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
5. UF is exposed to outsiders as a result of Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
6. UF’s visibility has been increased due to Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
7. UF’s visibility is not solely dependent upon Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
8. Outsiders know more about UF due to Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
Please feel free to provide <u>feedback on this dimension</u> (definition, understandability, and appropriateness)					
Please feel free to provide <u>feedback on items</u> . You can also write new items or delete items.					
Any your suggestions and comments to improve this specific dimension & items.					

<b>Pride from Being a Big-time Collegiate Sport Institution</b>					
<b>Dimension definition &amp; Items</b>	<b>Relevance</b>		<b>Clarity</b>		<b>Any your suggestions to improve each item.</b>
	Not relevant at all	Very relevant	Not clear at all	Very clear	
“Student’s positive mental reconstruction due to the enhanced image of their college being a big-time collegiate sport school.”					
9. Gator football helps preserve UF’s image as a major collegiate sport powerhouse.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
10. Gator football brings a prestigious sports image to UF.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
11. Gator football enhances the image of the school as a major university in the U.S.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
12. Gator football gives UF an opportunity to have a big-time collegiate sport identity.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
13. UF students are proud of the university as a major collegiate football school.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
14. Gator football strengthens the school’s identity as college sport powerhouse.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
15. UF gains a positive image as a result of being a major collegiate football school.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
16. UF’s image as a research institution is more important than its image as a college football school.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
17. The profile of UF has been improved due Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
Please feel free to provide <u>feedback on this dimension</u> (definition, understandability, and appropriateness)					
Please feel free to provide <u>feedback on items</u> . You can also write new items or delete items.					
Any your suggestions and comments to improve this specific dimension & items.					

**Pride in Efforts of Additional Campus Development**

Dimension definition & Items	Relevance		Clarity		
“Student’s heightened pride due to their institution’s effort to develop school facilities and improve other services, irrespective of the degree to which the outcome is successful. Students also perceive positive local development due to their big-time athletic team”	Not relevant at all	Very relevant	Not clear at all	Very clear	Any your suggestions to improve each item.
18. Gator football brings new income to the school.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
19. Gator football damages campus development.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
20. Gator football diversifies the local economy.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
21. Gator football diverts funds from various resources.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
22. Gator football helps improve the quality of campus services.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
23. Gator football promotes additional campus development.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
24. Gator football promotes opportunities to revive the school.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
25. Gator football provides recreational activities to the school.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
26. Gator football provides UF an opportunity to improve their facilities.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
Please feel free to provide <u>feedback on this dimension</u> (definition, understandability, and appropriateness)					
Please feel free to provide <u>feedback on items</u> . You can also write new items or delete items.					
Any your suggestions and comments to improve this specific dimension & items.					

**Excitement Quotient from Visitors**

Dimension definition & Items	Relevance		Clarity		
"Student's emotionally stimulated state that comes from home team's games"	Not relevant at all	Very relevant	Not clear at all	Very clear	Any your suggestions to improve each item.
27. I enjoy watching Gator football games.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
28. Gator football games are enjoyable.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
29. Gator football games are exciting.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
30. Gator football games do not pump me up.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
31. Gator football games bring excitement to UF.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
32. Gator football tailgating is enjoyable.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
33. Gator football games provide entertainment to UF.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
34. Gator football games stimulate me.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
Please feel free to provide <u>feedback on this dimension</u> (definition, understandability, and appropriateness)					
Please feel free to provide <u>feedback on items</u> . You can also write new items or delete items.					
Any your suggestions and comments to improve this specific dimension & items.					

<b>Emotional Involvement with a Team</b>					
<b>Dimension definition &amp; Items</b>	<b>Relevance</b>		<b>Clarity</b>		<b>Any your suggestions to improve each item.</b>
	Not relevant at all	Very relevant	Not clear at all	Very clear	
“Student’s increased sense of motivation, arousal, or interest toward their collegiate athletics.”					
35. Following Gator football is a high priority among my leisure activities.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
36. I am actively involved in activities related to Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
37. I have a strong sense of belonging to Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
38. I have an emotional involvement with Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
39. I participate in activities supporting Gator football (such as tailgating or attending games).	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
40. I am a committed fan of Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
41. I often display myself as a fan of Gator football. (e.g., T-shirt, sweater, jacket, hat, stickers, etc).	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
42. My commitment to the Gator football would decrease if they perform poorly.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
43. Being a fan of Gator football is important to me.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
44. Loss of Gator football is my loss.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
45. Success of Gator football is my success.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
Please feel free to provide <u>feedback on this dimension</u> (definition, understandability, and appropriateness)					
Please feel free to provide <u>feedback on items</u> . You can also write new items or delete items.					
Any your suggestions and comments to improve this specific dimension & items.					

***Tangible Focus for Social Bonding***

Dimension definition & Items	Relevance		Clarity		Any your suggestions to improve each item.
	Not relevant at all	Very relevant	Not clear at all	Very clear	
“Increased number of college students’ interactions including friendships, sentiment, and social affiliation with various groups.”					
46. Being a fan of the Gator football is an important part of my social life.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
47. I enjoy watching Gator football games more when I am with a large group of people.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
48. Gator football increases my social interactions with various groups.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
49. Gator football provides me opportunities to spend more time with friends.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
50. Gator football strengthens my friendships in the school.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
51. Gator football games are great opportunities to socialize with other people.	① ② ③ ④ ⑤		① ② ③ ④ ⑤		
Please feel free to provide <u>feedback on this dimension</u> (definition, understandability, and appropriateness)					
Please feel free to provide <u>feedback on items</u> . You can also write new items or delete items.					
Any your suggestions and comments to improve this specific dimension & items.					

<b>Enhanced Collective Self-esteem</b>					
<b>Dimension definition &amp; Items</b>	<b>Relevance</b>		<b>Clarity</b>		<b>Any your suggestions to improve each item.</b>
	Not relevant at all	Very relevant	Not clear at all	Very clear	
"Student's increased morale as a school member due to the successful home athletic team"					
52. Gator football increases UF students' self respect for the school.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
53. Gator football makes UF students appreciate their way of life in campus.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
54. I feel good about being a UF students because of Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
55. It is important that others see me as a fan of Gator football.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
56. Gator football increases my sense of belonging to UF.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
57. I perceive the Gator football team is "our" team rather than "a" team.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
58. I perceive the Gator football team is "our" team rather than "a" team.	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
59. When I talk about Gator football, I usually say "We" rather than "They."	①	② ③ ④ ⑤	①	② ③ ④ ⑤	
60. When someone praises UF football, it feels like a compliment to me.					
Please feel free to provide <u>feedback on this dimension</u> (definition, understandability, and appropriateness)					
Please feel free to provide <u>feedback on items</u> . You can also write new items or delete items.					
Any your suggestions and comments to improve this specific dimension & items.					

***Again, thank you for your cooperation.***

## APPENDIX B FIELD TESTS

Dear Ma'am/Sir,

I am conducting a study exploring how university students' psychological benefits from their intercollegiate football team influence their satisfaction with a university. Specifically, I am interested in the development of a generic model and survey instrument to measure university students' perception on their football team. The term, psychic income, has been used in this study to represent emotional and psychological benefits that individuals perceive, even though they do not physically attend intercollegiate football events or are not involved in organizing them.

The purposes of this study are: a) to provide a conceptual model of university students' psychological benefits, b) to test the proposed model of psychic income, and c) to develop a valid and reliable survey instrument to measure individuals' psychic income. The proposed model include seven dimensions including 1) pride from increased institution visibility, 2) pride from being a major collegiate sport institution, 3) pride due to additional campus development efforts, 4) excitement from home team, 5) emotional involvement with a home team, 6) social bonding, and 7) enhanced collective self-esteem.

Your assistance is requested in helping to establish face and content validity of this survey. You do **NOT** fill out the survey, but please examine the items. For your convenience, category headings and brief definition of each dimension are included. However, they will not appear on the final survey. The main survey is also enclosed in this study package so you can see the format.

I request you to verify if:

- 1) each dimension makes sense,
- 2) there are other dimensions that should be added,
- 3) the items fit their assigned dimension,
- 4) the items in a dimension continue together,
- 5) any of the items reflects more than one dimension,
- 6) any of the items is repetitive, and
- 7) there are other items that may fit into a particular dimension.

I also appreciate any other comments and suggestions directly on the survey regarding the content, wording, format, clarity, focus, ease of use, and the appropriateness of the individual items as well as the instrument as a whole.

Thank you for your assistance.

Sincerely,

Woosoon Kim  
Doctoral Student at University of Florida  
kimwo@ufl.edu  
(352) 281-5020



### **I. *Pride from Increased Institution Visibility***

“Student’s delight or the state of being proud arising from increased institution’s visibility nationally and internationally owing to their intercollegiate football team.”

I am proud because ...

1. ... Gator football increases the visibility of UF nationally.
2. ... Gator football increases media coverage of UF.
3. ... Gator football is an important element in UF’s national recognition.
4. ... people know more about UF due to Gator football.
5. ... mass media report more about UF due to Gator football.
  
6. I don’t think that UF’s visibility is solely dependent upon Gator football.

### **II. *Pride from Being a Major Collegiate Sport Institution***

“Student’s delight or the state of being proud arising from the image of their college being a major collegiate sport school due to their intercollegiate football team.”

I am proud because ...

7. ... Gator football is an important component of UF’s image as a major college sport powerhouse.
8. ... Gator football brings a prestigious sports image to UF.
9. ... Gator football increases UF’s image as a major university in the U.S.
10. ... UF students are proud of UF as a major football university.
11. ... UF gains a positive image as a result of being a major football university.
12. ... Gator football improves the profile of UF.
  
13. I think that UF’s image as a research institution is more important than its image as a college football school.

### **III. *Pride Due to Additional Campus Development Efforts***

“Student’s delight or the state of being proud arising from their institution’s effort to develop school facilities and improve other services, irrespective of the degree to which the outcome is successful. Students also perceive positive local development due to their intercollegiate football team.”

I am proud because ...

14. ... Gator football brings additional income to UF.
15. ... Gator football diversifies the local economy.
16. ... Gator football diverts funds in other campus needs from various resources
17. ... Gator football provides UF an opportunity to improve their sport facilities.
18. ... Gator football promotes additional general campus facility development.
19. ... Gator football brings additional income to the community.

#### **IV. Excitement Quotient**

“Student’s emotionally stimulated state from the games of their intercollegiate football team”

20. Gator football games amaze me.
21. Gator football games are exciting.
22. Gator football games disturb me.
23. Gator football games provide excitement to UF.
24. I enjoy watching Gator football games.
25. I recommend going to UF to others because Gator football games are so exciting.
- 26.
- 27.

#### **V. Emotional Involvement with the Team**

“Student’s increased sense of motivation, arousal, or interest toward their intercollegiate football team.”

28. Following Gator football is a high priority among my campus activities.
29. I participate in activities supporting Gator football (such as tailgating or attending games).
30. I have a strong sense of association with Gator football.
31. I am a committed fan of Gator football.
32. I often display myself as a Gator football fan (e.g., T-shirts, jackets, hats, stickers, etc).
33. Being a Gator football fan is difficult for me.
34. When someone praises Gator football, it is a compliment to me.
35. My campus life would be the same without Gator football.

#### **VI. Social Bonding**

“Increased number of college students’ interactions including friendships, sentiment, and social affiliation with various groups.”

36. Being a Gator football fan is an important part of my social life.
37. Gator football increases my interactions with various social groups.
38. Gator football gives more chances to spend time with friends.
39. Gator football strengthens my friendships at UF.
40. I don’t attend Gator football games in person alone.
41. I enjoy watching Gator football games more when I am with a group of people.
42. Gator football games are great opportunities to socialize with other people.

**VII. *Enhanced Collective Self-esteem***

“Student’s increased morale as a school member due to a successful home athletic team”

43. Gator football makes me feel good about being a part of UF.
44. Gator football increases my sense of belonging to UF.
45. I perceive the Gator football team as “our” team rather than “a” team.
46. Gator football brings UF students together.
47. I feel better about myself because I am a part of the Gator nation.
48. My life would be the same without UF football on campus.

## APPENDIX C MAIN SURVEY – ONLINE SURVEY



### Informed Consent

**Protocol Title:** College students' psychic income from big-time school's football team and its impact on college satisfaction

**Please read this consent document carefully before you decide to participate in this study.**

**Purpose of the research study:** The purpose of the study is to explore how university students' psychological benefits from their intercollegiate home football team influence their satisfaction with a university. Specifically, I will develop a generic model and survey instrument to measure university students' perception on their football team.

The term, psychic income, has been used in this study to represent emotional and psychological benefits that individuals perceive, even though they do not physically attend intercollegiate football events or are not involved in organizing them.

**What you will be asked to do in the study:** We ask that you just simply complete a questionnaire form that asks about your perception on UF's Gator football, even though you do not physically attend intercollegiate football events or are not involved in organizing them.

**Time required:** 10 minutes

**Risks and Benefits:** There are no known risks associated with participating in completing this questionnaire. However, some questions may be considered sensitive. Participants will not receive any benefits by participating in this survey.

**Confidentiality:** We will not ask any your identifiable information. However, the demographic information we obtain will be kept confidential to the extent provided by law. Your name will not be collected.

**Voluntary participation:** Your participation in this study is completely voluntary. There is no penalty for not participating.

**Compensation:** You will not receive any compensation for your participation in this study.

**Right to withdraw from the study:** You have the right to withdraw from the survey at anytime without consequence.

#### **Whom to contact if you have questions about the study:**

Woosoon Kim PO Box 118208 FLG Room 220B Gainesville, FL 32611 kimwo@ufl.edu (352) 281-5020	Dr. Michael Sagas PO Box 118208 FLG Room 300 Gainesville, FL 32611 msagas@hnp.ufl.edu 352-392-4042 ext. 1415
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**Whom to contact about your rights as a research participant in the study:**  
IRB02 Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone 392-0433.

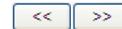
#### **Agreement:**

I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.

If you agree to participate in this research study and agree to the terms above, please click NEXT to begin the study.

**Gator football ...**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
... brings UF student together.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... makes me feel good about being a part of UF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... weakens the profile of UF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... increases my interactions with various social groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... gives more chances to spend time with friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... strengthens my friendships at UF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... increases my sense of belonging to UF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



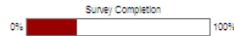
**Gator football games ...**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
... amaze me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... are great opportunities to socialize with other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... disturb me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... provides excitement to UF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... are exciting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



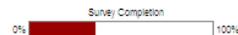
**Please rate each of following statements.**

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy watching Gator football games more when I am with a group of people.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being a Gator football fan is an important part of my social life. <sup>3</sup>						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't think that UF's visibility is solely dependent upon Gator football.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being a Gator football fan is difficult for me.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Following Gator football is a high priority among my campus activities.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel better about myself because I am a part of UF.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a strong sense of association with Gator football.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My campus life would be the same without Gator football.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I perceive the Gator football team as "our" team rather than "a" team.						



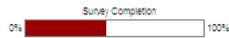
**I am proud because ...**

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football brings a prestigious sports image to UF.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football brings additional income to the community.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... UF gains a positive image as a result of being a major football university.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football improves the profile of UF.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football is an important component of UF's image as a major college sport powerhouse.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football increases media coverage of UF.						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football increases UF's image as a major university in the U.S.						



**I am proud because ...**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
... Gator football brings additional income to UF.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football is an important element in UF's national recognition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football promotes additional general campus facility development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football provides UF an opportunity to improve their sport facilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... mass media report more about UF due to Gator football.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football diversifies the local economy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... people know more about UF due to Gator football.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... UF students feel proud of UF as a major football university.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... Gator football increases the visibility of UF nationally.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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**Please rate each following statements.**

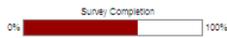
	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
When someone praises Gator football, its is a compliment to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy watching Gator football games.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that UF's image as a research institution is more important than its image as a college football school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often display myself as a Gator football fan (e.g., T-shirts, jackets, hats, stickers, etc).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I participate in activities supporting Gator football (such as tailgating or attending games.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I recommend going to UF to others because Gator football games are so exciting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a committed fan of Gator football.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



<< >>

Please rate each following statements.

Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Satisfied	Very Satisfied
In general, how satisfied are you with the overall quality of campus life at UF; that is, your academic and social life on campus?						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How satisfied are you with the overall quality of campus life for you personally at UF?						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How satisfied, would you say, most of your friends and other classmates are with the overall quality of campus life at UF?						
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



<< >>

What is your gender?

- Male
- Female

What is your race?

- White/Caucasian
- African American
- Hispanic
- Asian
- Native American
- Pacific Islander
- Other

What is your school classification?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate student

What is your enrollment status right now?

- Full-time (12 credits or more (Under) or 9 credits or more (Graduate))
- Part-time (less than 12 credits (Under) or 9 (Graduate))
- Other

What is your current age?

- 18 or under
- 19-20
- 21-22
- 23-24



What is your annual household income range (before tax)? (You can answer one of them or both.)

	Under \$10,000	\$10,001 - 20,000	\$20,001 - 30,000	\$30,001 - 40,000	\$40,001 - 50,000	\$50,001 - 100,000	\$100,001 - Over
Myself	<input type="radio"/>						
Household	<input type="radio"/>						

Do you have scholarship?

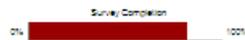
- No
- Yes

Do your parents or other family members substantially help you pay for your college expenses (including tuition, housing, books, etc.)?

- No
- Yes

If Yes, what percentage of your overall college expense (including tuition, housing, books, etc.) would you estimate that was paid for by your parents or family members?

- 10% or less
- 11-25%
- 26-50%
- 51-75%
- 76% or more



How many UF football games did you attend during 2009 season? (out of 7 home games including Charleston Southern, Troy, Tennessee, Arkansas, Vanderbilt, FIU & FSU)

How many UF football games did you attend during 2009 season? (out of 5 away games including Kentucky, LSU, Mississippi State, Georgia & South Carolina)

How many UF football games did you attend during 2009 season? (out of 2 post games including SEC Championship & Sugar Bowl)

Were you a member of any sport team in high school?

- No  
 Yes

Are you an athlete in any varsity sport at UF?

- No  
 Yes

Do you participate in recreational sport at UF?

- No  
 Yes

Do you participate in any activities for game days (e.g., tailgating, sorority/fraternity game day activities, club game day activities, etc.)?

- No  
 Yes



We thank you for your time spent taking this survey.  
Your response has been recorded.



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