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## Measuring the social impacts associated with Super Bowl XLIII: Preliminary development of a psychic income scale

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### ABSTRACT

Sport mega-events have taken on an elevated profile and assumed a key role as urban and regional development strategies. While a number of studies have investigated the potential impacts of these events, most (not surprisingly) have focused on economic, rather than non-economic outcomes. The purpose of this study was to investigate the non-economic features associated with a high profile mega-event in the United States. Based on Crompton's (2004) psychic income paradigm and a comprehensive review of the extant literature, this article describes the development and validation of a self-report scale designed to measure the psychological impact of Super Bowl XLIII on the residents of Tampa Bay, Florida. The research method followed standard scale development techniques. Initial scale validation (i.e., face and content validity) was assessed through a panel of experts and a field test. Principal component analysis (PCA) and confirmatory factor analysis (CFA) were conducted; the results of which revealed that mega-event psychological impact can be examined using 22 items under five factors: (1) community pride as a result of enhanced image, (2) enhanced community attachment, (3) event excitement, (4) community excitement, and (5) pride in efforts to improve community infrastructure.

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The Super Bowl is a time for both avid football fans and non-fans to revel in the spectacle that is professional sport. For many years, this annual contest has been the most-watched event among American television broadcasts and it is considered the most visible annual sport event in the United States (Baade & Matheson, 2006). Because of its emotional impact and sweeping commercial appeal, there have been several attempts to test the Super Bowl's aggregate influence. However, most impact studies have focused on economic outcomes with little attention given to non-economic criteria (Baade et al., 2006; Baade, Coates, & Humphreys, 2003; Humphreys, 1994; Porter, 1999). The potential benefits of hosting sport events go beyond tangible economic outcomes and several terms have been used for identifying the perceived social benefits, such as psychic income, quality of life, and civic pride (Burns & Mules, 1986; Crompton, 2004; Fredline & Faulkner, 2000; Groothuis, Johnson, & Whitehead, 2004; Jones, 2001; Wood, 2006).

Through hosting, communities celebrate their uniqueness, develop local pride, bring a sense of belonging, experience excitement, and expect economic well-being (Crompton, 2004; Horne & Manzenreiter, 2004; Ritchie & Smith, 1991). As a result, local community support is necessary for a successful event in order to justify the sometimes very substantial public expenditures earmarked for the project (Crompton, 2004; Jurowski, 1994; Ritchie, 1993). Surprisingly, however, resident

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perceptions are often excluded from event planning and decision-making procedures (Teye et al., 2005) resulting in a subjective calculus of whether non-financial benefits actually materialize. Therefore, understanding how event perceptions are impacted at the local community level is particularly noteworthy (Gursoy, Jurowski, & Uysal, 2002; Gursoy and Rutherford, 2003; Ko & Stewart, 2002).

The perceptual impacts of mega-events has been a growing area of research. Predominately studied as a part of social impact analysis (SIA), this work has revealed that residents possess positive attitudes toward bidding for and successfully hosting an event based on Crompton's (2004) psychic income paradigm (Andereck & Vogt, 2000; Choi & Sirakaya, 2005; McCool & Martin, 1994). Proponents of mega-events are likely to estimate optimistic economic outcomes and positive image construction, yet opponents are quick to point out that undesirable public debt and negative social costs could be among the primary outcomes (Whitson & Horne, 2006). In addition, event managers sometimes overestimate the monetary benefits of the event and prospective economic impact assessments often conclude with large and positive results because much of the time they are commissioned to justify the subsidy rather than tell the truth (Burgan & Mules, 1992; Coates & Humphreys, 2003; Crompton, 1995; Gelan, 2003; Getz, 1997; Gibson, Willming, & Holdnak, 2003; Mules, 1998; Rosentraub, 1996). Given the equivocal nature of the published data regarding the usefulness of economic impact analyses, it is important to incorporate a measure of residents' perception of the sport event as a non-economic criterion for policy makers and event planners.

To build on existing social impact measurement in sport, the purpose of this study was to report on the development of a self-report scale designed to investigate community residents' psychological benefits from hosting a mega-event. To accomplish this, the authors developed a multidimensional Scale for psychic income (SPI) which was tested in the context of Super Bowl XLIII. This article is organized into several sections that detail the development and testing of this tool. The following section offers a general overview of sport mega-events followed by conceptual discussions of social impact and psychic income. The conceptual framework is then presented highlighting notably, Crompton's (2004) paradigm for psychic income which provide a necessary backdrop for psychological impacts resulting from the Super Bowl. Next, the methods for scale development are presented followed by the data collection and analysis procedures. We conclude with a general discussion of our results, study limitations, and suggestions for future work.

## 1. Literature review

Sport mega-events (e.g., Olympic Games, FIFA World Cup, Rugby World Cup, and Super Bowl) attract a substantial amount of worldwide attention. The high-profile nature of these events has led to their moniker of "hallmark" events (Horne & Manzenreiter, 2004) which Ritchie (1994, p. 2) defined as a "... major one-time or recurring events of limited duration, developed primarily to enhance the awareness, appeal and profitability of a tourism destination in the short and/or long term". In his discussion of hallmark events, Ritchie identified seven different types, with major sport events topping the list. A number of studies have investigated the impacts of these sport events, which have become a particularly important issue within the tourism and leisure fields (see Gratton, Shibli, & Coleman, 2006). For example, research on the 1988 Winter Olympic Games by Ritchie and Smith (1991) is regarded as one of the first major studies on the impact of a sport mega-event. Building on the work of Burns, Hatch, and Mules (1986), Hall (1989) addressed the impact of the Adelaide Grand Prix as an early effort to measure the comprehensive impact of major sport events. However (as mentioned), the majority of impact assessments have focused on economic benefits (Crompton, 1995; Fredline et al., 2000; Getz, 1991; Hudson, 2001; Porter, 1999; Sherwood, Jago, & Deery, 2005), which has resulted in little consensus on how to calculate the residual psychological impact for host community residents.

Sport mega-events are generally regarded as economic and developmental catalysts because they attract spectators, revitalize deteriorated areas, create or enhance the image of the host city through increase in media attention (Austrian & Rosentraub, 2002; Cornelissen & Swart, 2006; Fredline et al., 2000; Getz, 1997; Gibson et al., 2003; Hall, 1992; Santo, 2005). As a result of these impacts, many cities have attempted to host both major international and domestic events. The impact of the Super Bowl is extraordinary in the US, and this hallmark event attracts great interest not only from general public but also from the media, entrepreneurs, and marketers. However, empirical results have showed that the economic benefits to the host city are very little or none at all (Baade et al., 2006; Humphreys, 1994; Porter, 1999). Nonetheless, the indirect (or intangible) impact of the Super Bowl is undeniable as shown in the mission statement provided by the Tampa Bay Super Bowl Task Force celebrated their winning bid for the 2009 Super Bowl:

The image of the Tampa Bay region, as well as the entire State of Florida, will be enhanced by the positive impression made on the participants, spectators and viewers of this event, and we will position our area as a premier site for future Super Bowls.

Although shared optimism is one way to engender positive support, the costs associated with mega-events can have significantly negative effects on the host region (Deccio & Baloglu, 2002; Fredline, 2004). Public costs aside, social costs also abound for hosting mega-events, which include community displacement, rent increases, community disruption, security issues, pedestrian congestion, parking issues, resentment, pollution, and exaggerated sport fan behavior (Allen, Long, Perdue, & Kiselbach, 1988; Hall, 1992; Higham, 1999; Johnson, Snepenger, & Akis, 1994; Lankord, 1994; Liu, Sheldon, & Var, 1987). If these social costs are perpetuated, host cities stand to lose their established destination image particularly if the event is inappropriate for the host community's capacity and financial strength (Fredline, 2004; Higham, 1999). In addition,

residents' negative experiences with the event could also adversely influence their attitudes and perceptions (Haley, Snaith, & Miller, 2005).

The consequences of hosting a large scale event are still controversial. Anecdotally, Rosentraub (2006, p. 23) argued that anticipated positive economic impacts of sport (and sport facilities) are the modern equivalent of "... the fable of the emperor's new clothes" and Baade (1996, p. 2) questioned whether sport facilities and teams lay "... golden eggs" for local areas. Empirically, research has revealed that professional facilities and events provide little benefit in terms of income and employment generation (Baade, 1996; Baade & Dye, 1990; Baade & Sanderson, 1997; Coates & Humphreys, 2003; Rosentraub, Swindell, Przybylski, & Mullins, 1994) and the overall monetary impact of professional sports can (in some instances) be negative (Coates & Humphreys, 1999, 2001). In sum, economic impact assessments heavily focus on direct monetary effects and often ignore intangible impacts on the community (Swindell & Rosentraub, 1998).

### 1.1. Social impact analysis

Impact analyses on sport mega-events have been an important research area since the US National Environmental Policy Act (NEPA) highlighted the need for broad impact of the social changes (Andereck & Vogt, 2000; Finsterbusch, 1985; The Interorganizational Committee, 2003; Tosun, 2002). Defined as "... efforts to assess, appraise or estimate, in advance, the social consequences that are likely to follow from proposed action" (The Interorganizational Committee, 2003, p. 231), SIA has come to represent a fundamental component of community impact analyses (Burdge, 2003). While there is no standardized taxonomic framework for SIA, Gramling and Freudenburg's (1992) 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 a project) is one example of a social impact framework assessment that could be advanced. It is almost impossible to combine all possible dimensions of social impacts because any social changes could stimulate unexpected consequences (The Interorganizational Committee, 2003). In addition to Gramling and Freudenburg's model, Table 1 lists several frameworks of social impact studies, all selected because the term "social impact" appeared in the title.

Social impact studies have been conducted in two ways: (1) extrinsic and (2) intrinsic approaches (Faulkner & Tidswell, 1997; Fredline et al., 2000). The extrinsic dimension investigates macro-level impacts, assuming homogeneity among the community residents, and attempts to find impacts that affect residents in similar ways. The intrinsic approach considers the heterogeneity of the local population and helps explain how resident perceptions of various residents' groups are influenced. Fredline (2004) listed key extrinsic variables affecting residents' perceptions of event associated specifically regarding the location (i.e., stage of tourism development, social carrying capacity, type of tourist, seasonality, and spatial concentration) and the event (i.e., stage of event development, size of event, type of visitor, frequency, and infrastructure requirement). Examples of intrinsic variables are proximity, contact, involvement, use of facility, knowledge, socio-political value, community attachment, and demographic variables (Fredline, 2004).

As a component of SIA, several terms have been used interchangeably to gauge resident perception toward local events such as attitude (Gursoy & Rutherford, 2004; Ko et al., 2002; Sheldon & Abenoja, 2001; Teye, Sönmenz, & Sirakaya, 2002), perception (Andereck, Valentine, Knopf, & Vogt, 2005; Dyer, Gursoy, Sharma, & Carter, 2007; Lee et al., 2003; Soutar & McLeod, 1993), reaction (cf. Deccio & Baloglu, 2002; Fredline et al., 2000), and opinion (Williams & Lawson, 2001). Social exchange theory has been the most commonly used theory to explain community members' perception of the impact of events (Andereck et al., 2005; Gursoy et al., 2002, 2004; Lee et al., 2003; Teye et al., 2002; Waitt, 2003). Ap (1992, p. 668) described social exchange theory as "... a general sociological theory concerned with understanding the exchange of resources between individuals and groups in an interaction situation". This theory assumes that individuals initiate exchanges through a subjective cost-benefit analysis of event projects. If there is an exchange or a supportive attitude, it can be assumed that individuals perceive the impact positively. Conversely, if there is no attempt to exchange values or resources, individuals judge the costs to outweigh the benefits. The decision of hosting sport events indicates there is a supportive general agreement already and community members perceive some sort of positive outcome. Regardless of the various perspectives of social impact, the primary argument gleaned from the research is that host residents' psychological impact should be examined along with economic assessments (Burgan & Mules, 1992; Crompton, 2004; Gibson, 1988; Ritchie, 1984).

**Table 1**  
Examples of social impact analysis (SIA) framework.

Social impact studies	Social impact study foci						
	Social	Economic	Cultural	Political	Environmental	Commercial/tourism	Psychological
Delamere et al. (2001), Dyer et al. (2007), Gursoy and Rutherford (2004)	✓	✓	✓				
Dwyer et al. (2000)	✓	✓					
Gramling and Freudenburg (1992)	✓	✓	✓	✓			✓
Fredline (2004), Ritchie (1984)	✓	✓	✓	✓		✓	✓
The Interorganizational Committee (2003)	✓			✓			
Haley et al. (2005)	✓						
Lee and Back (2003)	✓	✓			✓		
Ko and Stewart (2002)	✓	✓	✓		✓		

## 1.2. Psychic income

The impact analysis focused on individuals' psychological benefits is a part of SIA and its importance has been echoed in the fields of tourism and event management since [Ritchie \(1984\)](#) posited the issue. This specific term, psychic income, has been used in the field of human resource management as an intrinsic reward contained in the job, such as emotional satisfaction and a sense of achievement ([Reif, 1975](#)). Early on, [Burgan and Mules \(1992\)](#) added the importance of psychic income in their economic assessment of sport events and drawing on this work, [Gibson \(1998\)](#) demonstrated that a small scale event may provide greater psychic income than a major sport event. Sport economists ([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 hosts' 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 team or event does not provide a complete measure of an individuals' psychic income ([Johnson et al., 2001, 2006](#); [Owen, 2006](#)).

[Crompton \(2004, p. 181\)](#) defined psychic income as "... the emotional and psychological benefit residents perceive they receive, even though they do not physically attend sports events and are not involved in organizing them". The author sought to identify a rationale (other than the widely debated economic perspective) for the public subsidy of major league sports facilities. In his conceptualization of the concept, Crompton included four external benefits (i.e., economic impact, community visibility, community image, and stimulation of other development) and one internal benefit (i.e., residents' internal perceptions) of sport teams. Since sport teams and events are the catalyst to promote civic pride, self-confidence, residence quality life, and festival atmosphere ([Burgan et al., 1992](#); [Coakley, 1998](#); [Crompton, 1995](#); [Eitzen, 2005](#)), the current study focused internally, on individuals' emotional and psychological benefits in order to develop and validate a measurement tool aimed at capturing the internal perceptions of host community residents.

## 2. Conceptual framework

Our framework is grounded in [Crompton's \(2004\)](#) seven dimension psychic income paradigm: (1) community pride as a result of increased community visibility, (2) excitement quotient from visitors, (3) emotional involvement with a team, (4) tangible focus for social bonding, (5) pride in efforts to resuscitate deteriorated areas, (6) civic pride from being a major league city, and (7) enhanced collective self-esteem (see [Fig. 1](#)). Although Crompton's framework is considered to be one of the most comprehensive conceptual approaches measuring community members' psychological benefits from teams, this paradigm has yet to be empirically tested, particularly within the mega-event context. To the best of our knowledge, this study is the first step toward testing and validating a measure of residents' psychic income resulting from a mega-sport event. To measure community members' perception of hosting a sport event, this study introduced a modified seven factor framework – the dimensions of which are elucidated below.

### 2.1. Community pride resulting from increased visibility

Community pride refers to residents' sense of self-respect due to increased visibility nationally and internationally owing to an event ([Crompton, 2004](#); [Gibson, Qi, & Zhang, 2008](#); [Xu, 2006](#)). Several scholars refer to this impact as the "showcase effect" of media coverage ([Hiller, 1989](#); [Horne & Manzenreiter, 2004](#)), which is regarded as a long-term benefit because the event improves the region's profile and investment opportunities ([Hiller, 1989](#)). As an example, when the media televises the NFL's weekly Monday Night Football event, they show not only the game but also the city skyline, downtown, parks, and other civic attributes. The implicit assumption is that increased visibility provides community members with affiliative pride while "showcasing" the community to outside viewers. While the ideas of community and civic pride have yet to be well defined ([Wood, 2006](#)), this study attempted to clarify these concepts by utilizing [Crompton's \(2004\)](#) three dimensions of pride (e.g., community pride as a result of increased visibility, civic pride from being a major sport event host city, and pride in efforts to resuscitate deteriorated areas).

To help crystallize national pride, several event management studies described positive outcomes as exposure to different cultures ([Delamere, 1997](#); [Getz & Frisby, 1988](#)), increased publicity and recognition ([Jeong & Faulkner, 1996](#)), and recognition of the potential community ([Delamere, 1997](#)). Recently, [Xu \(2006\)](#) discussed Chinese international pride resulting from the 2008 Beijing Olympic Summer Games. Additionally, [Ritchie and Smith \(1991\)](#) analyzed the impact of a mega-event on regional awareness of Calgary, illustrating that the event dramatically increased community members' level of city awareness. Utilizing a trend analysis, [Mihalik and Simonetta \(1999\)](#) found that following the 1996 Olympic Summer Games, Georgia residents rated the benefits of international recognition the highest in three years leading up to the Games. In addition, the residents perceived an increase in international recognition and positive image as more important than monetary benefits. As a result of these findings, we assume a positive relationship between hosting sport events and increasing community visibility because community members derive satisfaction from their city name being domestically or internationally known.

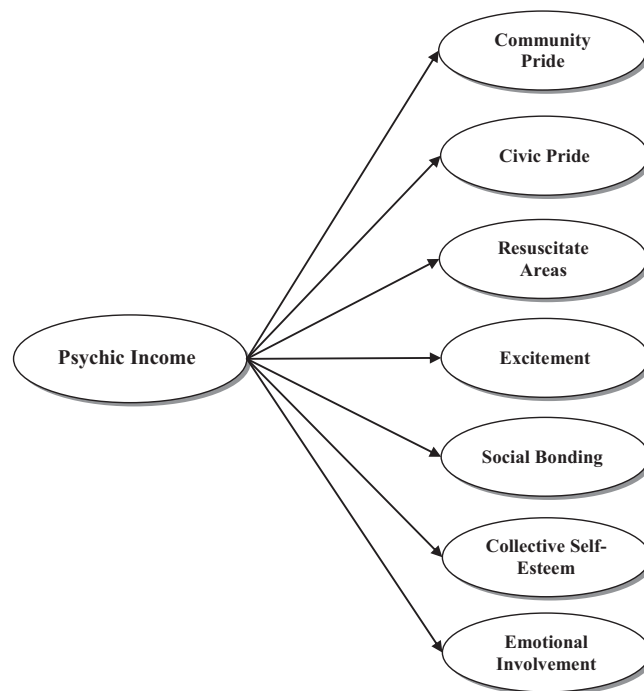


Fig. 1. Proposed conceptual model.

## 2.2. Civic pride from being a sport event host city

Civic pride refers to an individuals' positive mental reconstruction due to the enhanced image of their community being an event host city (Crompton, 2004; Groothuis et al., 2004; Johnson & Whitehead, 2000, 2004). Although the sport event (or team) may have little economic impact on the community, the prestige associated with the team and the event may have tremendous intrinsic value (Baade, 1996; Johnson et al., 2001; Siegfried & Zimbalist, 2000). Sport has become an important part of life and culture in many societies for which many individuals in those societies place extraordinary value (Coakley, 1998; Crawford, 2004; Eitzen, 2005). Further, many communities and cities strive to become a major sport city by establishing and maintaining a sport identity (Baade, 1996; Gibson et al., 2008) and an international image of the community through their teams and events (Jeong & Faulkner, 1996).

Being a resident of a major sport event host city creates personal satisfaction, improved self-image in the community, and pride among residents (Gelan, 2003; Mules, 1993; Roche, 2006) which can translate into a positive "can-do" attitude to outsiders (Crompton, 2004). Waitt (2003, p. 209) examined the changes in residents' enthusiasm for the Sydney Olympic Summer Games and found that "... community and national spirit" were among the highest psychological rewards for the respondents. In addition, the majority of Australians believed the image of the "... tyranny of distance" would be reduced by hosting the Games (Waitt, 2003, p. 210). Seoul Korea experienced an improved national image by hosting the 1988 Summer Games which showcased South Korea's industrialized economy and the end of the military dictatorship image (Black & Bezanson, 2004). As well, by hosting the 2002 World Cup, South Korea demonstrated its ability to recover from the 1997 Asian financial crisis (Horne et al., 2004).

Modernity and globalization are additional reasons why a nation or a city attempts to host mega-events (Roche, 2006). Whitson and Horne (2006) noted increased interest in hosting sport mega-events arguing that such events could attract a global audience, tourists, and external investors. They also found that cities hosting the Olympic Winter Games could enhance their reputation as a winter holiday destination. Based on this, sport events not only build the image of the community as a major sport event host city but also inculcate a positive spirit to the community members who can show the ability to handle major missions.

## 2.3. Pride in efforts to resuscitate deteriorated areas

Community members can possess heightened pride due to the community's effort to revive their community (Lipsitz, 1984; Rosentraub, 2009). Crompton (2004, p. 55) noted the expectation that "... something is being done" increases the "... collective community conscience", regardless of outcomes. Gratton et al. (2006) argued that sport events are often part of a city's regeneration strategy designed to improve the city's profile. Similarly, Horne et al. (2004) cited the cities of Glasgow, Sheffield, Manchester, and Birmingham as examples where investments in the local infrastructure in order to host sport



events were made. Using the term “urban boosterism”, the authors noted that sport teams and events have become popular sources for city enhancement.

Despite the controversy surrounding the economic benefits of sport events and facilities, many believe these events can revitalize deteriorated community areas, especially aging downtown ones (Austrain et al., 2002). Proponents of revitalization (Chapin, 2004; Hall, 1992; Teye et al., 2002) have argued that new and renovated infrastructures give a competitive advantage to the community (i.e., post-event), and provide opportunities for hosting future events. Chapin (2004) noted that approximately 60 major professional sport facilities were constructed in the 1990s alone. This indicates a major shift in the facility construction rationale. Baltimore’s Camden Yards sport complex and Cleveland’s Gateway are regarded as successful successful sport facilities serving urban redevelopment catalysts (Chapin, 2004). Crompton (2004) listed Coors Field (i.e., the home of the Colorado Rockies MLB team) as an example of urban boosterism for a local community. Although it is still difficult to measure the real monetary impact of a sport event to the host community, the preceding research suggests that at least the local population’s sense of community was enhanced because of their belief that the community attempts do something for the project.

#### 2.4. Enhanced collective self-esteem

According to social identity theory (Brown, 2000; Stets & Burke, 2000), individuals define themselves (in part) according to their membership in various social groups. Moreover, as social identity (i.e., collective identity), (Hardy, Lawrence, & Grant, 2005) contributes to self-conception, it also contributes to self-evaluation (Brewer & Gardner, 2004); and, although research on self-esteem has emphasized personal aspects of the self, there has been recent interest in collective sources of self-esteem. In the current study, enhanced collective self-esteem refers to an individual’s increased morale as a community member when they host a sport event (Brewer & Gardner, 2004) and in the context of their community hosting an event, indicates how high in regard local residents hold themselves (Eckstein & Delaney, 2002). In their review of the concept, Eckstein and Delaney (2002) proposes two separate (but related) threads in community self-esteem: (1) how community members perceive their community and (2) how the city’s image will be projected to outsiders. The self-esteem dimension in the current study is akin to Eckstein and colleagues’ internal self-esteem model.

Eckstein and Delaney (2002) argues that individuals in modern societies exhibit limited collective conscience because the societies are highly complex and members are likely to be alienated from each other. However, sport is a medium through which cities and residents express their identity and shared beliefs (Branscombe & Wann, 1991; Heere & James, 2007). As such, hosting special events allows residents to experience a “once-in-a-lifetime-opportunity” and it enhances local residents’ spirit and enthusiasm (Waite, 2003). Sport events trigger social changes that can enhance community self-esteem, including improved quality of life (Delamere, 2001; Haley et al., 2005; Ko et al., 2002; Williams and Lawson, 2001), a wider variety of cultural activities (Williams et al., 2001), enhanced community identity (Delamere, 2001; Delamere, Wankel, & Hinch, 2001), increased recreational opportunities (Haley et al., 2005), and increased social and cultural opportunities (Spilling, 1997). Based on this, we posit that local residents’ self-esteem increases when they host a sport event, and that they perceive their community life is improved by a sport mega-event.

#### 2.5. Tangible focus for social bonding

The tangible aspect of social bonding specifies that local events increase residents’ interactions including friendships, sentiment, and social participation (Funk, Mahony, & Ridinger, 2002; Jurowski et al., 2002; Trail & James, 2001; Wann, 1995). Social interaction is regarded as an important factor for individual well-being in a society. Several researchers have supported the idea that sport can increase affiliations among community members (Collins, 2004; Crompton, 2004; Washington & Karen, 2001). Moreover, sport reflects the human spirit, community bonding, family memories, competition, and victory (Eitzen, 2005; Funk, Mahony, Nakazawa, & Hirakawa, 2001; Morgan, 1997) and through this socialization process, individuals interact across different groups (e.g., friends, families, schools, and social organizations). This enhanced social bonding improves social relations, generates teamwork, and decreases feelings of social alienation (Collins, 2004; Crompton, 2004; Frey & Eitzen, 1991; Washington et al., 2001).

Sport participation and spectatorship also foster additional opportunities for social interaction. Family ties increase when people watch games with families (Eitzen, 2005; Funk et al., 2001; Wann, 1995) and also provide tangible socializing opportunities including event-related social activities, ancillary events, theming, and informal social opportunities (Chalip, 2006; Coakley, 2001). According to Maslow (1943) hierarchy, individuals fulfill a sense of belonging in their community, when they transition to higher levels. Additionally, local residents seek interaction and a sense of belonging in social groups to fulfill their needs, which 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 events are temporary and their duration is fleeting, host community members have various tangible socializing opportunities pre- and post-event (Eitzen, 2005).

#### 2.6. Excitement from the event and visitors

Excitement refers to the residents’ emotionally stimulated state from hosting a sport event – a result of both the event itself and the influx of visitors to the local community (Chalip, 2006; Green, 2001). Some researchers have argued that events

have the ability to boost the local or national entertainment industries and local activities, such as recreation and spectator entertainment (Brunt & Courtney, 1999; Hannigan, 1998; Jeong et al., 1996; Liu & Var, 1986; Liu et al., 1987). In addition, event advertisers promote parties and various activities (sometimes) more than the event itself to increase excitement. The party atmosphere is typical in most host cities because event planners and commercial sectors intend to create a sort of community ecstasy (Crompton, 2004), which Chalip (2006) described as new energy injected to the community atmosphere.

Local governments use events to provide unique experiences for visitors and residents (Devine & Devine, 2004) such as intercultural celebrations (Kidd, 1992). The enhanced excitement among community members and visitors are mutually transferable and contagious. Gibson (1998) explained that excitements are mimetic experiences which generate emotion, specific to the individual's positive perception of the event and elevated consumption behavior. Tangible product expansions and ancillary activities provide other ways to increase event ecstasy and serve as excitement generators (Green, 2001). While a large visitor influx in a short period of time may cause noise, traffic, and disruption, the duration of residents' excitement may depend on how often, how long, and how unique their exposure is to a specific local event (Fredline, 2004; Waitt, 2003). Therefore, community residents' emotional uplift prior to the event is regarded as an additional psychological benefit to community members.

### 2.7. Emotional involvement with a sport event

Local residents' increased sense of motivation, arousal, or interest toward hosting sport events (Havitz & Dimanch, 1999) is a particular component within the context of psychological impact. Involvement has been an important theme for marketing researchers because it influences consumers' behavior and decision-making processes (Assael, 1992; Bloch, Sherrell, & Ridgeway, 1986; Donovan & Jelleh, 1999). Consumers demonstrating high levels of involvement exhibit increased loyalty to certain products (McGehee, Yoon, & Cárdenas, 2003). In addition, the high correlation between job involvement and job satisfaction has been widely discussed in the human resource management area (Blau & Boal, 1987; Knoop, 1995). McGehee et al. (2003) specifically found that individuals with higher involvement with running events exhibited participation in future events and also increased spending on running related products.

Ap (2002) revealed that local residents who have business or employment interests in the tourism sector showed positive attitudes toward tourism development. This finding indicates that a sport event elevates individuals' community satisfaction when their involvement with the sport is high. Havitz et al. (1999) claimed that individuals' event involvement occurs when personal meanings were attached to the event (e.g., pleasure or interest resulting from involvement). However, Gursoy et al. (2006) pointed out the difficulty in research regarding the relationship between locals' support for events and their level of involvement because the involvement issue in event planning has only recently received attention. This realized emotional involvement with a sport event therefore serves to enhance community members' perception of importance, interest, and pleasure of the sport event.

## 3. Method

In light of the limited research assessing the psychological benefits residents receive from hosting sport events, the current research developed a scale of psychic income (SPI) as an initial step toward further psychological benefit and social impact analyses. The development of the SPI followed standard scale development techniques as described by Churchill (1979). Specifically, the study instrument employed three phases with specific analytical elements contained in each phase: (1) item generation, (2) data collection, and (3) data analysis.

### 3.1. Item generation

Using Crompton's (2004) framework, a list of items was generated for each component of the psychic income paradigm to arrive at a measure of psychological impact. Multiple measures for each psychic income component were developed from existing perception, attitude, and social impact studies (Andereck et al., 2005; Burnett, 2001; Choi et al., 2001; Delamere et al., 2001; Dyer et al., 2007; Fredline & Faulkner, 1998; Gramling et al., 1992; Gursoy et al., 2004; Kim, Ko, & Zhang, 2008; Ko et al., 2002; Lee et al., 2003; Mayfield et al., 1995; Teye et al., 2002). The majority of these items have been used previously in tourism and event management; thus, the wording has been modified for a sport event impact study. Because this study examined participants' attitudes toward the community, a Likert-type scale was used (Ary, Jacobs, Rajavieh, & Sorensen, 2005). A seven point Likert-type scale (1 = strongly disagree to 7 = strongly agree) was only adopted to enhance the simplicity of items, avoid confusion caused by the semantic differential statement, and increase the reliability of the instrument (Ary et al., 2005; Babbie, 1992; Thomas, Nelson, & Silverman, 2005).

### 3.2. Face and content validity

For initial validation, face and content validity were assessed through a panel of experts and a field test. The panel was composed of eleven individuals with expertise in impact analyses in sport and tourism and community development. The panelists reviewed the initial items with respect to their content to decide how well each item measured the range of meanings within the concept as suggested by Babbie (1992). The panel members also revised the clarity, readability, format,

and content by providing feedback to refine the items (Rubio, Berg-weger, Tebb, Lee, & Rauch, 2003; Likert, 1968). Items correctly identified by 75% of the experts were retained, and feedback led to rewording of several items to enhance clarity. After the revisions, a field test was conducted similar to the target population to identify ambiguities, misunderstandings, or other inadequacies of the instrument (see Ary et al., 2005). Based on these results, each item was re-evaluated for clarity, format, and length resulting in 43 items for use in the pilot study.

### 3.3. Pilot study

To eliminate poor performing items and to test reliability of each item in the suggested dimensions, we followed the procedure outlined by Ary et al. (2005) and pilot tested the instrument. A non-random sample of 62 graduate students participated. The reliability of each item was assessed using Cronbach's alpha coefficients, corrected item-total correlations, means, standard deviations, and Cronbach's alpha if-item-deleted statistics (Hair, Black, Babin, Anderson, & Tatham, 2006). The seven alpha scores ranged from .80 to .88 indicating that the scale items in the specified factors were internally consistent (Hair et al., 2006; George & Mallery, 2007; Lance et al., 2006). One item in the factor, *Pride from Resuscitated Deteriorated Area* (D2) was deleted to improve construct reliability. As a result, 42 items were retained across seven factors (see Table 2).

### 3.4. Main study

The 43rd National Football League (NFL) championship game (the Super Bowl XLIII) was hosted at Raymond James Stadium in Tampa Bay, Florida, on February 1, 2009. The event promoted various public events and activities for more than three weeks to the Tampa Bay area. Data for the main study was collected from Tampa Bay residents two days after the event and the data collection continued for four weeks following this initial round. Due to concerns about residents' decreasing perception of the event, a sample was selected in a convenient manner from various public places (e.g., shopping malls, retail outlets, public libraries, and college campuses). The timing issue also led to a mixed-mode survey design, as online surveys were added in order to capture prompt responses. The questionnaires were self-administered and included an informed consent form, the SPI, and socio-demographic questions.

A total of 489 questionnaires, yielding 472 completed and useable packets, were returned. Of the respondents, 48.5% ( $n = 229$ ) were male and 46.2% ( $n = 218$ ) were female. The age of participants ranged from 18 to 71 years ( $M = 29.48$ ;  $SD = 14.07$ ). A majority of respondents were Caucasian (65.5%), followed by African-American (9.9%), Hispanic (8.1%), other ethnic backgrounds (4.4%), and Asian (3.4%). Of those, 67.1% were single, 20.4% were married, 5.2% were divorced and 1% was widowed. In terms of income, those with an annual income less than \$10,000 comprised the largest group among subjects (28.6%) followed by \$100,000 or more (14%) and between \$50,000 and \$74,999 (10.4%). In terms of Tampa area residency, 56.3% of respondents self-reported 1–9 years. The 2nd and 3rd residencies listed were 10–19 years (16.3%), and 20–29 years (12.3%). Among the participants, 4.9% attended Super Bowl XLIII and 74.3% viewed the contest on television.

To assess some overall economic perceptions of the event, the questionnaire included one item regarding community members' perception of the economic impact (i.e., "What are your perceptions of the economic impact of Super Bowl XLIII on your community?"). Approximately half (51.5%) reflected moderately positive impact, and the remaining sample included largely positive (21.8%), little-positive (15.2%), no impact (6.6%), little-negative (2.2%), moderately negative (1.9%), and largely negative (0.5%). More than 85% of the respondents held positive perceptions regarding the impact of the Super Bowl in their community. To gauge the respondents' negative event perceptions, one open-ended question was included. A majority of the respondents ( $n = 272$ ) listed at least one negative opinion about the impact of the Super Bowl. Most ( $n = 172$ ) regarded traffic as most problematic, followed by crowding ( $n = 21$ ), parking ( $n = 18$ ), high merchandise prices ( $n = 17$ ), expensive bars ( $n = 14$ ), and busy restaurants ( $n = 11$ ). Interestingly, 83 respondents indicated no inconvenient experience.

### 3.5. Data analysis

For the initial analysis of the factor structure, the expert panel and the pilot study resulted in the SPI composed of 42 items under 7 factors: (1) community pride as a result of increased visibility, (2) civic pride from being a major sport event host city, (3) pride in efforts to resuscitate deteriorated areas, (4) excitement from an event and visitors, (5) tangible focus for social bonding, (6) enhanced collective self-esteem, and (7) emotional involvement with a sport event. In order to statistically support the 7 factor model and reduce the number of items, a principal component analysis (PCA) was conducted followed by a confirmatory factor analysis (CFA). The sample ( $N = 472$ ) was subdivided so that both exploratory and confirmatory analyses could be performed. The first sample ( $n = 216$ ) was used to identify weaknesses with the scale before performing the confirmatory analysis. Following the PCA, internal consistency reliability was examined by calculating Cronbach's alpha coefficients for the identified factors. The second data set was slightly larger ( $n = 256$ ) because we required more data to conduct the CFA in order to obtain reliable estimates (Bollen, 1989; Bryne, 1994).

SPSS and LISREL statistical packages were used to estimate test reliability coefficients and further test the hypothesized measurement model. The CFA (using maximum likelihood estimation) confirmed whether observed items loaded on pre-specified latent constructs. To test the overall fit,  $\chi^2$  goodness-of-fit, root mean square error of approximation (RMSEA), standardized mean square residual (SRMR), non-normed fit index (NNFI), comparative fit index (CFI) were used. The higher



**Table 2**  
Reliability analysis of pilot data.

Factors	Items		<i>M</i>	<i>SD</i>	Item-total correlation	$\alpha$ if item deleted
Increased visibility ( $\alpha = .884$ )	v1	Exposed to outsiders	5.55	1.434	.671	.869
	v2	Outsiders know	5.18	1.337	.712	.861
	v3	Enhanced media visibility	5.60	1.166	.806	.850
	v4	International identity	4.45	1.479	.560	.889
	v5	Nationally known city	4.94	1.291	.737	.858
	v6	Television stations broadcasted	5.44	1.288	.733	.858
	Major sport event host city ( $\alpha = .895$ )	m1	Can host other major sport events	5.65	1.132	.729
m2		Could show the ability	5.61	1.206	.766	.872
m3		Positive image as a Super Bowl event host city	5.50	1.083	.775	.872
m4		Positive recognition	5.58	1.181	.766	.872
m5		Not many communities could host a Super Bowl game	5.48	1.434	.460	.913
m6		Enhanced the image of	5.29	1.260	.624	.888
m7		Opportunity to show	5.31	1.209	.833	.863
Resuscitated deteriorated area ( $\alpha = .881$ )	d1	Improved our public facilities	4.61	1.486	.666	.867
	d2	Improve the appearance	5.08	1.232	.549	.883
	d3	Urban regeneration	4.29	1.298	.806	.841
	d4	The quality of community public services	4.40	1.311	.788	.844
	d5	The quality of police and fire services	4.42	1.287	.713	.857
	d6	Opportunities to revive the community	4.95	1.093	.644	.869
	Self-esteem ( $\alpha = .836$ )	se1	Compliment To me	5.26	1.342	.537
se2		feel good	4.52	1.647	.586	.821
se3		Appreciate their way of life more	3.84	1.296	.569	.817
se4		Community confidence	4.50	1.238	.631	.806
se5		Self respect for the community	3.98	1.235	.715	.790
se6		Sense of well-being	3.50	1.170	.675	.799
Social-bonding ( $\alpha = .821$ )		b1	Cooperation among groups	4.39	1.323	.556
	b2	Social interactions within my community	4.23	1.323	.669	.775
	b3	Increased opportunities to spend time with family	4.02	1.614	.511	.816
	b4	Sense of belonging	3.94	1.099	.679	.779
	b5	More socializing opportunities	5.68	1.265	.617	.787
	b6	Strengthened my friendships	4.02	1.324	.546	.801
	Excitement ( $\alpha = .804$ )	e1	Enjoyed interacting with visitors	4.76	1.434	.640
e2		Was excited by the visitors	4.48	1.534	.521	.787
e3		Brought excitement	5.87	1.048	.584	.774
e4		Provided entertainment	6.06	1.253	.392	.809
e5		Provided new activities	5.35	1.294	.612	.762
e6		The night life	5.47	1.352	.657	.751
Involvement ( $\alpha = .855$ )		i1	Very important	4.48	1.627	.730
	i2	Great news	5.26	1.546	.630	.833
	i3	Enjoyed watching more football games	4.11	1.631	.651	.829
	i4	Liked to watch	5.40	1.361	.572	.843
	i5	Fan involvement with football	4.97	1.504	.571	.843
	i6	Interest in football	4.60	1.583	.698	.820
	Overall, perception ( $\alpha = .880$ )	o1	The right choice	5.89	1.026	.823
o2		Outweigh negative consequences	5.84	1.148	.779	.845
o3		Ongoing positive impact	5.44	1.125	.668	.863
o4		Supported hosting Super Bowl	5.85	1.053	.887	.832
o5		Paying extra taxes	3.76	1.606	.346	.936
o6		Overall, I favored	5.76	1.302	.848	.830

chi-square test statistics ( $\chi^2$ ) indicates how well the proposed model fits the covariance matrix. However, this number is sensitive to sample size (Kline, 2005), so normed chi-square (NC,  $\chi^2/df$ ) was used.

## 4. Results

### 4.1. Descriptive results

Descriptive statistics including mean and standard deviation for the psychological impact variables are presented in Table 3. Of the 42 items, 38 had a mean score greater than 4.0 (midpoint on the 7-point scale), indicating that overall Tampa Bay residents' psychological benefits from hosting Super Bowl XLIII were high. Descriptively, the item, "sense of well-being" had the lowest mean score ( $M = 3.6$ ;  $SD = 1.54$ ) while "provided entertainment" yielded the highest mean score ( $M = 6.06$ ;

**Table 3**  
Descriptive statistics for the psychic income variables for the first data set ( $n = 216$ ).

Factor	Variables		<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Increased visibility	v1	Exposed to outsiders	5.14	1.663	-.873	.198
	v2	Outsiders know	5.31	1.453	-.875	.557
	v3	Enhanced media visibility	5.57	1.335	-1.116	1.372
	v4	International identity	4.83	1.559	-.470	-.374
	v5	Nationally known city	5.19	1.469	-.777	.330
	v6	Television stations broadcasted	5.41	1.414	-.800	.415
Major sport event host city	m1	Can host other major sport events	5.73	1.381	-1.362	2.040
	m2	Could show the ability	5.57	1.389	-1.211	1.573
	m3	Positive image as a Super Bowl event host city	5.72	1.353	-1.315	1.835
	m4	Positive recognition	5.55	1.468	-1.164	1.059
	m5	Not many communities could host a Super Bowl game	5.24	1.567	-.790	.070
	m6	Enhanced the image of	5.36	1.424	-.926	.596
	m7	Opportunity to show	5.25	1.454	-.998	.969
Resuscitated deteriorated area	d1	Improved our public facilities	4.33	1.691	-.248	-.701
	d3	Urban regeneration	4.32	1.451	-.111	-.069
	d4	The quality of community public services	4.32	1.523	-.210	-.318
	d5	The quality of police and fire services	4.38	1.545	-.361	-.155
	d6	Opportunities to revive the community	4.82	1.453	-.556	.163
	Self-esteem	se1	Compliment to me	4.89	1.761	-.549
	se2	Feel good	4.50	1.836	-.429	-.727
	se3	Appreciate their way of life more	4.20	1.432	.030	-.123
	se4	Community confidence	4.51	1.434	-.477	.066
	se5	Self respect for the community	4.17	1.565	-.229	-.466
	se6	Sense of well-being	3.60	1.543	-.124	-.656
Social-bonding	b1	Cooperation among groups	4.51	1.497	-.363	-.170
	b2	Social interactions within my community	4.19	1.637	-.226	-.548
	b3	Increased opportunities to spend time with family	3.89	1.937	-.070	-1.125
	b4	Sense of belonging	4.10	1.554	-.202	-.404
	b5	More socializing opportunities	5.71	1.461	-1.444	1.800
	b6	Strengthened my friendships	3.95	1.590	-.211	-.537
Excitement	e1	Enjoyed interacting with visitors	4.61	1.730	-.467	-.391
	e2	Was excited by the visitors	4.58	1.823	-.437	-.759
	e3	Brought excitement	5.97	1.169	-1.532	2.598
	e4	Provided entertainment	6.06	1.291	-1.763	3.232
	e5	Provided new activities	5.52	1.414	-1.134	1.086
	e6	The night life	5.37	1.665	-.943	.123
Involvement	i1	Very important	4.25	1.917	-.287	-.956
	i2	Great news	4.89	1.875	-.728	-.411
	i3	Enjoyed watching more football games	4.03	1.941	-.144	-1.059
	i4	Liked to watch	5.02	1.811	-.784	v.243
	i5	Fan involvement with football	4.69	1.861	-.567	-.761
	i6	Interest in football	4.19	1.863	-.265	-1.023

$SD = 1.29$ ) as well as the highest kurtosis at 3.23. According to Chou and Bentler (1995), the acceptable skewness and kurtosis cut-off is an absolute value of 3.0 which was achieved by all of the items except the 'entertainment' item.

#### 4.2. Principle component analysis

A PCA was conducted to identify the latent factor structure and to further reduce the data. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy value was .937 and Bartlett's Test of Sphericity (BTS) was significant ( $p < .001$ ) indicating the sample was appropriate for a factor analysis (George & Mallery, 2007). To determine the factors and their associated items, the following criteria were used: (a) factors with eigenvalues greater than 1.0, (b) enough factors to meet a specified percentage of variance explained (i.e., usually 60% or higher), (c) an item with a factor loading equal to or greater than .40, (d) factors shown by the *scree test* to have substantial common variance, and (e) an identified factor and retained items must be interpretable in the theoretical context (Cattell, 1966; Hair et al., 2006). The initial 42 items were reduced to 32 under 5 factors meeting the retention criteria, explaining 64% of the variance. The resultant five factors were: (1) community pride as a result of enhanced image (9 items,  $\alpha = .93$ ), (2) enhanced community attachment (8 items,  $\alpha = .90$ ), (3) event excitement (7 items,  $\alpha = .90$ ), (4) pride in efforts to improve community infrastructure (5 items,  $\alpha = .89$ ), and (5) community excitement (3 items,  $\alpha = .71$ ). Overall, the resolved factor structure represented the conceptual PSI model for the subsequent CFA.

#### 4.3. Confirmatory factor analysis

The second data set was subjected to a CFA using maximum likelihood estimation to define the model. Goodness of fit indices revealed that the five-factor, 32-item measurement model did not fit the data well. The chi-square for the

**Table 4**  
Model fit comparison for the second data set ( $n = 256$ ).

Model	$\chi^2$	df	$\chi^2/df$	RMSEA	SRMR	CFI	NNFI
5-factor, 32 items	1485.91	454	3.27	.10	.078	.87	.85
4-factor, 32 items	1578.31	458	3.45	.11	.078	.85	.84
5-factor, 29 items	1206.84	367	3.29	.10	.075	.88	.87
5-factor, 26 items	928.86	289	3.21	.094	.069	.90	.89
5-factor, 22 items	526.94	199	2.65	.077	.055	.94	.93

preliminary model was significant ( $\chi^2 = 1485.91$ ,  $df = 454$ ,  $p < .01$ ), the normed chi-square value ( $\chi^2/df = 3.27$ ) was above the suggested cut-off value (i.e.,  $< 3.0$ ; Bollen, 1989), while the RMSEA indicated a poor fitting five-factor model (RMSEA = .10; Hu & Bentler, 1995). Although the SRMR (.078) was within the range of acceptable fit ( $\leq .10$ ; Kline, 2005), the CFI (.87) and NNFI were lower than the suggested cut-off ratio ( $> .90$ ). The reliability measures of the prelude model including AVE, CR, and Cronbach's alpha were above the suggested values but the model fit indices signified an overall lack of fit to the data and a need for re-specification. According to Anderson and Gerbing (1988), a factor loading ( $\lambda$ ) should be equal to or greater than .70 to share a high proportion of common variance. Of 32 items of the preliminary model, six with a lambda ( $\lambda$ ) value of lower than .70 were removed from the model. The other 26 items had a  $\lambda$  value between .75 and .94; however, this modified model did not show significant improvement in model fit (RMSEA = .094; SRMR = .069; CFI = .90; NNFI = .89; see Table 4).

The modification indices revealed high residual values (delta,  $\delta$ ) and correlations with other items. To evaluate and modify the model, all of the modification indices greater than five were reviewed (Jöreskog & Sörbom, 1996). The item, "increased my community confidence", under the *community attachment* factor had the highest residual value ( $\delta$ ) and a poor modification index with the other items. Four items were removed after careful consideration of both statistical and theoretical justifications (i.e., enhanced the image of my community as a major city, gave opportunities show the ability, increased my community confidence, and increased the sense of belonging in various community groups). Consequently, a 5-factor model with 22 items resulted in a much improved fit to the data, ( $\chi^2 = 526.94$ ,  $df = 199$ ,  $p < .01$ ), the normed chi-square [ $(\chi^2/df = 2.65)$  RMSEA = .077 (CI = .068–.085), SRMR = .055, NNFI = .93, CFI = .94] (Fig. 2).

To ensure a relative amount of scale validity, factor loadings and  $t$ -values were examined. According to Hair et al. (2006), all factor loadings were above the cut-off (.70) and ranged from .77 to .94. The  $t$ -values for all variables ranged from 13.75 to 19.69 at the .05 significance level. 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, revealed high correlation between factors. The lowest phi coefficient was .48 (between *pride in efforts to improve community infrastructure* and *community excitement*). The phi between *enhanced community attachment* and *event excitement* had a high inter-factor correlation ( $\Phi = .90$ ). As a result of this high factor correlation, a four-factor nested model with these two latent variables was assessed. However, the four-factor model did not improve the model fit thereby leading to our decision to retain the previously discussed five-factor model.

The reliability measures of the preliminary model already showed high internal consistency of the factors and respective items. To interpret parameter estimates and to determine distinct constructs and the reliability of the scale, the following values were calculated: Cronbach alpha ( $\alpha$ ), construct reliability (CR), and AVE. Alpha reliability coefficients and CR coefficients were well above the .70 criterion (Hair et al., 2006; Nunnally & Bernstein, 1994). The community excitement

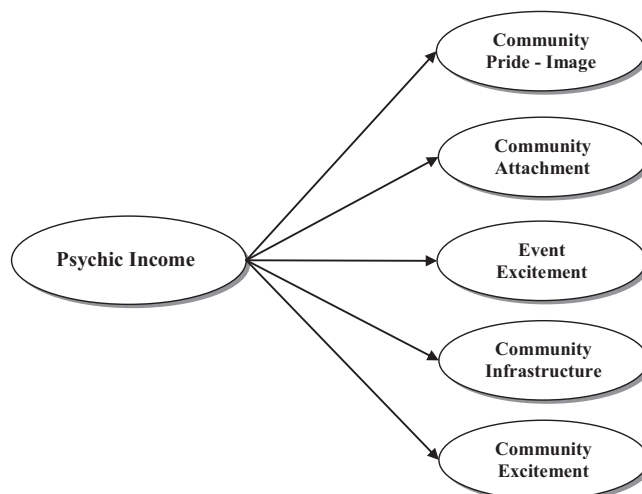


Fig. 2. Retained 5-factor model.

Table 5

Factor pattern matrix for the psychic income variables: alpha factoring with oblique rotation for the first data set ( $n = 216$ ).

Variables	F1	F2	F3	F4	F5
<i>Community pride as a result of enhanced image (9 items)</i>					
M3 gained a positive image as a Super Bowl host city	.900	.037	-.005	-.066	.013
M4 gained positive recognition	.885	-.050	.152	-.132	-.017
M2 showed the ability to host a major sport event	.841	.044	.065	-.173	.040
M7 gave opportunities to showcase the city	.827	-.070	.007	.158	.001
V5 helped my community to become a nationally known city	.811	.014	-.042	.132	-.084
M1 can host other major sport events	.798	-.116	.145	-.125	.165
V2 outsiders know more about my community	.786	.187	-.050	-.071	-.027
V4 gave my community an international identity	.755	.047	-.096	.200	-.157
M6 enhanced the image of my community as a major city	.722	-.106	-.083	.301	-.002
<i>Enhanced community attachment (8 items)</i>					
B6 strengthened my friendships in my community	-.074	.833	.123	.046	-.184
SE3 made residents appreciate their way of life more	.200	.815	-.370	-.058	.143
SE6 increased my sense of well-being	-.050	.785	.193	.063	-.229
B4 increased my sense of belonging in various community groups	-.019	.749	.061	-.027	-.029
B2 increased my social interactions within my community	-.110	.720	.137	.037	-.019
SE5 increased my self respect for the community	.078	.664	.123	.035	-.061
B1 increased cooperation among groups in my community	.005	.641	-.140	-.019	.379
SE4 increased my community confidence	.004	.641	.072	-.032	.248
<i>Event excitement (6 items)</i>					
I6 increased my interest in football	-.045	-.055	.907	.058	-.093
I5 increased my fan involvement with football	-.083	-.062	.867	.019	.090
I3 enjoyed watching more football games	.001	.187	.630	.131	-.084
E6 night life was more exciting	.121	-.036	.620	-.057	.165
E1 enjoyed interacting with visitors	.077	.224	.608	-.029	.016
I4 liked to watch the Super Bowl	.241	.045	.603	-.030	.081
E2 excited by the visitors	.106	.299	.512	-.028	.024
<i>Pride in efforts to improve community infrastructure (4 items)</i>					
D4 improved the quality of community public services	-.038	.047	.088	.850	.025
D5 improved the quality of police and fire services	-.061	.103	-.029	.810	.101
D1 improved our public facilities	-.136	-.021	.089	.798	.058
D6 promoted opportunities to revive the community	.154	-.174	.045	.754	.145
D3 helped urban regeneration	.218	.115	-.113	.732	-.125
<i>Community excitement (3 items)</i>					
E4 provided entertainment to the community	.015	-.217	.066	.037	.882
E3 brought excitement to the community	-.064	.122	-.007	.116	.746
E5 provided new activities to the community	-.019	.271	.090	.066	.492

factor had the lowest Cronbach  $\alpha$  and CR (Cronbach  $\alpha = .84$ , CR = .85). The other factor, community pride as a result of enhanced image, had the highest Cronbach  $\alpha$  and CR (Cronbach  $\alpha = .95$ , CR = .96). The AVE values ranged from .65 (community excitement) to .81 (community pride as a result of enhanced image). The strong evidence of these reliability measures supports the internal consistency of the scale (see Table 5).

## 5. Discussion

Sport events will likely continue to serve as important catalysts to generate community pride, excitement, attachment, and support future urban redevelopment. Although traditionally focused on economic assessments, an incipient change call has been issued placing the focus on the psychological impacts derived from mega-sport events. Specifically, broader measures regarding the benefits of hosting sport events, measuring intangible benefits, more qualitative dimensions, alternative justifications for public subsidy, and a Triple Bottom Line (TBL) approach including economic, social and environmental analyses have all been forwarded as necessary in calculating the social impacts derived from mega sport events. Independent of any economic criteria, this study sought to partially answer these calls by assessing the psychological impact associated with the Super Bowl. As a result, a factor structure related to community morale resulting from a specific mega sport event was identified.

To ground the scientific basis of the proposed constructs, we adapted Crompton's (2004) psychic income paradigm which resulted in a 22 item scale with five factors: (1) community pride as a result of enhanced image, (2) enhanced community attachment, (3) event excitement, (4) pride in efforts to improve community infrastructure, and (5) community excitement. The scale development procedures confirmed and refined the SPI in addition to providing greater applicability to the defined population. In addition, the study confirmed individuals' overall perception on the impact of sport event was positive and community members supported the decision of hosting the Super Bowl. Initially, three "pride" factors were suggested (i.e., community pride by increased community visibility, civic pride from being a major league city, and pride in efforts to resuscitate deteriorated areas). The first two factors were combined to form the *community pride as result of enhanced image* dimension. To sport marketers, these two aspects have critical implications to enhance destination image, trigger

community residents' positive attitude toward the project, and attract participants and spectators who could be potential consumers (Chalip, Green, & Hill, 2003; Dwyer, Mellor, Mistilis, & Mules, 2000).

Although increased visibility and improved image are widely recognized as economic engines (Crompton, 2004), there is a lack of empirical evidence to justify their utility. The combined factors may represent community members' affirmative beliefs that enhanced community image may lead to an improvement of a local economic base. The last pride factor (i.e., pride in efforts to improve community infrastructure) showed local members' enhanced morality and its items were combined in analyses resulting in the highest internal consistency. Still, the outcome of a community's effort to resuscitate deteriorating areas is unclear but the belief that (at the very least) "something is being done" (according to Crompton, 2004), might elevate residents' community pride.

*Enhanced community attachment* was formed by combining two constructs from Crompton's work (i.e., self-esteem and social bonding). Previous social impact studies have used similar concepts for example, social and cultural impacts (Ko et al., 2002), community attachment (Gursoy et al., 2006), social interaction (Teye et al., 2002), and community life (Andereck et al., 2005). This work indicates that a sport mega-event can enhance local residents' social interactions and morale as a community member (Heere & James, 2007; Jurowski et al., 2002). Hosting mega sport events is a part of urbanization and local governments have been attempting to develop residents' attachment through different means. This study revealed that individuals' enhanced community attachment is a viable addition to a model to assess the psychological impact of community residents.

Crompton's (2004) *excitement* factor was sub-divided to include *event excitement* and *community excitement*. Waitt (2003) illustrated that "euphoric" may be the best description of social impact because the excitement level before and during a mega-event is inevitably high due to the influx of visitors and associated activities. Scitovsky (1981) noted that excitement is a form of human satisfaction derived from many different sources. The applicability of this idea is apparent when considering the focal event in this study. The Tampa Bay Super Bowl host committee announced more 150,000 visitors to the NFL Experience over two weekends (Super Bowl Committee, 2009). In addition to the NFL Experience, other commercially sponsored activities, such as the Pepsi Smash, Taste of NFL, NFL Charities of Celebrity Golf Classic, and the Halftime show, were notable sources of attraction for visitors. These examples illustrate the usefulness of a two-dimensional approach to excitement as various points of attraction serve as sources of excitement (i.e., from the event and directed toward the community) beyond the core product (i.e., the game) itself (Tables 6–8).

While initially proposed as contributing to the psychological fulfillment associated with a mega-event, involvement was not retained. Crompton (2004) described an individual's emotional identification with a sport team a "love affair". However, the focus of the current study was on the emotional involvement one had with a sport event. As local sport teams evoke fans' emotions, feelings, and emotional identification with a sport team (Gantz & Wenner, 1995; Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993), the stimulus of interest toward a specific event may change. The cause of this difference is one of three elements influencing the level of involvement including the characteristics of the person, the stimulus, and the

**Table 6**

Final model's factor loadings, critical ratios, Cronbach alpha, construct reliability, average variance extracted for the second data set ( $n = 256$ ).

Variables	Factor loadings	Cronbach alpha	CR	AVE
<i>Community pride as a result of enhanced image (5 items)</i>		.95	.96	.81
Can host other major sport events	.94			
Showed the ability to host a major sport event	.91			
Gained a positive image as a Super Bowl event host city	.94			
Gained positive recognition	.93			
Outsiders know more about my community	.77			
<i>Enhanced community attachment (4 items)</i>		.89	.89	.68
Increased my self respect for the community	.83			
Increased my sense of well-being	.85			
Increased my social interactions within my community	.79			
Strengthened my friendships in my community	.82			
<i>Event excitement (6 items)</i>		.92	.92	.66
Enjoyed interacting with visitors	.79			
Excited by the visitors	.83			
Enjoyed watching more football games	.79			
Liked to watch the Super Bowl	.84			
Increased my fan involvement with football	.83			
Increased my interest in football	.78			
<i>Pride in efforts to improve community infrastructure (4 items)</i>		.93	.94	.78
Helped urban regeneration	.83			
Improved the quality of community public services	.92			
Improved the quality of police and fire services	.89			
Promoted opportunities to revive the community	.89			
<i>Community excitement (3 items)</i>		.84	.85	.65
Brought excitement to the Community	.77			
provided entertainment to the community	.85			
Provided new activities to the community	.80			

Note. CR, construct reliability; AVE, average variance extracted.



Table 7

Preliminary model's factor loadings, critical ratios, Cronbach alpha, construct reliability, average variance extracted for the second data set ( $n=256$ ).

Variables	Factor loading	Cronbach alpha	CR	AVE
<i>Community pride as a result of enhanced image (9 items)</i>		.94	.95	.69
Can host other major sport events	0.92			
Showed the ability to host a major sport event	0.91			
Gained a positive image as a Super Bowl event host city	0.92			
Gained positive recognition	0.93			
Enhanced the image of my community as a major city	0.78			
Gave opportunities to show	0.78			
Outsiders know more about my community	0.8			
Gave my community an international identity	0.67			
Helped my community to become a nationally known city	0.71			
<i>Enhanced community attachment (8 items)</i>		.90	.92	.59
Made residents appreciate their way of life more	0.65			
Increased my community confidence	0.79			
Increased my self respect for the community	0.84			
Increased my sense of well-being	0.86			
Increased cooperation among groups in my community	0.67			
Increased my social interactions within my community	0.77			
Increased my sense of belonging in various community groups	0.76			
Strengthened my friendships in my community	0.79			
<i>Event excitement (7 items)</i>		.90	.92	.62
Enjoyed interacting with visitors	0.79			
Excited by the visitors	0.84			
Night life was more exciting	0.67			
enjoyed watching More football games	0.78			
Liked to watch the Super Bowl	0.84			
Increased my fan involvement with football	0.82			
Increased my interest in football	0.77			
<i>Pride in efforts to improve community infrastructure (5 items)</i>		.89	.92	.71
Improved our public facilities	0.66			
Helped urban regeneration	0.83			
Improved the quality of community public services	0.93			
Improved the quality of police and fire services	0.89			
Promoted opportunities to revive the community	0.89			
<i>Community excitement (3 items)</i>		.71	.85	.66
Brought excitement to the community	0.77			
Provided entertainment to the community	0.85			
Provided new activities to the community	0.79			

Note. CR, construct reliability; AVE, average variance extracted.

situation (Bloch & Richins, 1983; Zaichkowsky, 1986). The stimulus of interest was the Super Bowl which tends to provide a great deal of excitement to the community and this excitement may overshadow the enhancement of community members' involvement with this specific sport (i.e., football). This study did not explain community members' involvement with the event itself, which constitutes both a limitation and an area for future research.

## 6. Limitations and future directions

Although the five-factor model resulted in sound measurement characteristics, there are some issues that require future attention. First, the degree of independence among the scales remains a concern because the interfactor correlation between *community attachment* and *event excitement* was high. Although the combined factor for those two constructs was hypothesized and tested, a four factor model was found to be inferior to the five-factor model. Little evidence had suggested that these two factors represent the same construct; however, future conceptual examination and revision of the factors (and associated items) are recommended because statistical standards were heavily relied upon when modifying the scale and items. Future studies should see if modifications are warranted based on theoretical criteria and also use independent data sets to test the final model (Hair et al., 2006; Kline, 2005; MacCallum, Ronzowski, & Necowitz, 1992).

Second, the generalizability of this study is limited because multiple sampling methods were utilized. In addition, the context of this study (i.e., Tampa and the Super Bowl), may also limit the generalizability due to the nature of the event relative to the focus of Crompton's original work (i.e., team-level analysis). Thus, the results of the study may not be generalizable to other settings. Perceptions of intangible benefits might be different when surveying fans of professional sport teams or attendees of a one-time mega sport event.

Third, the data collection procedures only provided a partial understanding of the applicability of the results. The current study measured residents' post-event perceptions but several scholars have suggested that a pre/post analysis should be conducted for systematic knowledge of time sequences in the responses (Finsterbusch, 1985; Fredline, 2004; Gramling et al.,

Table 8

Interfactor correlations from the confirmatory factor analysis for the second data set (N = 256).

	CP	CB	EE	CI	CE
CP	1.0				
CB	.57 <sup>*</sup>	1.0			
EE	.67 <sup>*</sup>	.90 <sup>*</sup>	1.0		
CI	.51 <sup>*</sup>	.76 <sup>*</sup>	.77 <sup>*</sup>	1.0	
CE	.73 <sup>*</sup>	.54 <sup>*</sup>	.61 <sup>*</sup>	.48 <sup>**</sup>	1.0

Note. CP, community pride; CB, community attachment; EE, event excitement; CI, community infrastructure; CE, community excitement.

<sup>\*</sup> Correlation significant at the .05 level.

<sup>\*\*</sup> Correlation significant at the .01 level.

1992; Gibson, 1998; Lee et al., 2001). However, since we sought only to initially test and validate the items and factors, the results are nonetheless useful.

Fourth, although this study solely investigated residents' psychic income and found a majority of the certain population favored hosting Super Bowl, future scholars would be well-served by collecting longitudinal data to further clarify the conditions under which the current factor structure might hold (or require further refinement). A cluster analysis approach should be conducted in future studies because negative impacts might influence some community members differently (Fredline, 2004; Madrigal, 1995). Supplementary validation to contribute the generalizability debate could also be done using broader and wider sampling frames in various sport contexts such as area, size, frequency, duration, and culture.

## 7. Conclusion

The primary contribution of this research was employing Crompton's (2004) conceptual framework to develop the SPI, in addition to partially fulfilling the call for improved and additional SIA measurement. In particular, community morale resulting from a specific mega sport event was identified. While the findings of this study do provide some implications for Super Bowl organizers, they might also be valuable for other large scale sport events – mainly in terms of internal marketing (Fredline, 2004; Kotler, 1988; Madrigal, 1995). For example, community members can be regarded as internal customers of a firm (Fredline, 2004; Kotler, 1998). Thus, this instrument could be useful for sport event planners and marketers to identify community residents' concerns and expectations related to sport events. Sport events are a part of a broader strategy to improve the profile of communities and successfully measuring these ideas is where the real merit of SIA lies. If researchers are able to move toward a more actionable rationale for the how these events contribute to psychological impact, public policy decisions can yield more immediate (and moreover) applicable results to local members and maximize community satisfaction. Particularly in the context of the Super Bowl, the publicized majority of outcomes associated with this event are economic. However, the results suggest that there can be additional positives garnered from hosting the hallmark sport event (or analogous events). Through successful refinement and testing of the proposed dimensions, community and psychological impact assessments might become an integral part of the bid process associated with such events in addition to the larger discussions surrounding their intended impacts and legacies.

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