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Beyond Economic Impact: College Town Resident Perceptions of Psychic Income from Intercollegiate Athletics

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Psychic income is the emotional and psychological benefit residents perceive they receive from a local sports team or event. The measurement of psychic income has previously been measured only in relation to major sporting events. This study examined the psychic income that residents of Chapel Hill, North Carolina receive from the university athletics department. A modified collegiate version of the Scale of Psychic Income (Kim & Walker, 2012) was tested in application to the college town setting of Chapel Hill, NC. Results indicated fan identity and perceived economic impact were significant predictors of psychic income, and participants who are single and have completed a higher level of education were more likely to report higher levels of psychic income than their counterparts. This study fills an important gap in the literature relative to the measurement of non-economic benefits intercollegiate athletics can provide a college community.

Universities in the United States are a quintessential part of American culture. At the outset of higher education in the U.S., universities were considered "elite bastions of information and knowledge" and academic gowns were as distinct from townsfolk as university campuses were from their surrounding architectures (Martin, Smith, & Phillips, 2005, p. 3). This contrast invoked the expression "town and gown", which highlighted the vast separation between the culture of the academics and that of the citizens who lived in the surrounding towns. College football emerged as a way to bridge the gap between the supposed high brow of collegiate environment and the low brow of community members (Ingrassia, 2012). Progressives in this movement believed the integration of football into the academy would foster town-gown relations, and provide an avenue to facilitate publicity for the university (Ingrassia, 2012; Thelin, 2008).

Contemporary intercollegiate athletics possess an ability to forge partnerships by uniting community members, students, fans, friends and alumni (Kirwan & Turner, 2010). Saturdays in the fall breathe excitement and camaraderie into college towns all across America as college football takes center stage. In the spring, NCAA March Madness grabs the attention of fans as they painstakingly attempt to pick the perfect bracket and cheer their team on to the Final Four. "While it is undeniable that sports have tremendous cultural, social, and economic impacts, scholars have long struggled with how to distill and operationalize these impacts so that decision makers can make use of this research" (Chapin, 2002, p. 9). Addressing this issue, Crompton (2004) developed a psychic income framework in order to explain the emotional and psychological non-economic benefits of spectator sport. Psychic income was defined by Crompton (2004) as, "the emotional and psychological benefits residents perceive they receive, even though they do not physically attend sports events, and are not involved in organizing them" (p. 49). In the original definition, Crompton defines psychic income as a benefit to those who "*do* not" physically attend or are involved in organizing sport events. We have made an important distinction, reflective of much of the research replacing "do" with "*may*" to be more inclusive, defining psychic income as: "the emotional and psychological benefits residents perceive they receive, even though they [may] not physically attend sports events, and are not involved in organizing them" (p. 49). We believe this definition reflects the true psychic income in a community inclusive of fans and non-fans alike. Crompton's framework has been primarily applied to mega-sport events and professional sport as a complementary justification for public subsidy (e.g., Crompton, 2004; Gibson et al., 2014, Kim & Walker, 2012), but there is limited scholarship within the context of college sports.

Therefore, the purpose of this study is to examine the emotional and psychological benefits (psychic income) that residents of a college town perceive based on group differences. As a secondary purpose, an exploratory instrument development process will be examined. This was done in order to make revisions to Kim and Walker's (2012) initial instrument development of SPI to accommodate resident perceptions of their local university's athletic program. This study was tested from the context of local citizens around The University of North Carolina at Chapel Hill (UNC). As public subsidies of intercollegiate athletics through direct institutional allocation and student fees continues to rise, it is imperative to examine the non-economic benefits received by a community. These benefits are not only a single event or construction of a specific facility, but the long-lasting emotional and social impact of an entire collegiate athletics

department upon its surrounding community (Chapin, 2002: Johnson & Whitehead, 2000; Sanderson, 2000; Svensson, Huml, & Hancock, 2014).

One of the few studies to date involving college athletics and psychic income was performed by Kim (2010), who explored college students' psychic income, derived from their school's athletic program, and how it influenced their satisfaction with college. Kim provides a vital connection, between university and college students, but leaves open an opportunity to examine both sides of "town and gown" by assessing the benefits perceived by area residents from their college athletic program. Additionally, previous studies on psychic income have mentioned its strong association with community pride (Crompton, 2004). While assessing college students can speak to the on-campus community pride within college athletics (Kim, 2010), it fails to speak towards the pride felt by local and more permanent members of the community that reside off-campus. A lack of research on psychic income perceived by a university's local community further highlights a potential disconnect between the university's athletic department and local residents. Previous scholars have pointed out how pricing and promotional methods within college athletics primarily focuses on connecting with students and national television audiences (Benford, 2007; Shank & Lyberger, 2015), therefore omitting the local residents surrounding the universities. This study will provide a platform for future research related to the measurement of perceived psychic income in the collegiate setting. Additionally, the results could shed light on the actual psychological and emotional benefits received by city residents from their local university athletics department, therefore helping athletic administrators make decisions to better serve their surrounding community.

Literature Review

Intercollegiate Athletics and the College Town Community

As referenced in the introduction, intercollegiate athletics has been an integral element of town-gown relations and university marketing efforts since the inaugural intercollegiate contest in 1852 (Hyman & Van Jura, 2009; Smith, 2011). College athletics have precipitated universities adopting unique traditions, including colors, mascots, fight songs and alma maters, that create a bond between alums and the school, as well as a distinct brand that represents the school to the outside world (Hyman & Van Jura, 2009). These traditions and trademarks, popularized through intercollegiate athletics, have helped establish the institution of higher education as a hallmark of American culture.

While a handful of big-time college athletics programs reap significant financial rewards from TV broadcasting rights and corporate sponsorships, the majority of schools rely on institutional support (tax dollars) and/or student fees to keep their programs afloat (NCAA Revenues & Expenses, 2015). Given the initial public benefits seen in collegiate athletics at its inception, these public subsidies were justified. However, amidst the current financial climate in higher education (e.g. Bok, 2015) and criticism of the industry, the institution of collegiate athletics should work to demonstrate the benefits to the academy, donors, and society in general, are substantial enough to warrant financial support.

Research on college athletics and communities is not new, but is heavily focused on communities residing on-campus. Previous scholars have investigated how college athletics can help create a sense of community (Warner & Dixon, 2011, 2013). Sense of community (SOC) has been defined as, "a feeling that members have of belonging and being important to each

other, and a shared faith that members' needs will be met by their commitment to be together" (Chavis, Hogge, McMillan, & Wandermans, 1986, p. 11). These studies have focused on the experiences of a symbiotic, internal group, such as student-athletes (e.g., Warner & Dixon, 2011), and how their experiences together fostered feelings of unity. While these studies hold significant value, application to the surrounding, external community would be problematic, as the majority of community members cannot spend considerable time with players and coaches, therefore limiting their relationship with the program through their fandom and "town and gown" experiences of being geographically near the program (Katz & Clopton, 2014). This limitation is also apparent by the authors' calls for future research, who invited further examination of other stakeholders within the college campus but not external stakeholders (Warner & Dixon, 2011; Warner, Shapiro, Dixon, Ridinger, & Harrison, 2011). This research highlights a potential gap in the literature regarding the involvement and/or value perceived regarding college athletics from the perspective of the local community, specifically for community members not residing on-campus.

Psychic Income

Identifying this need for the identification and quantification of the non-economic benefits of sport, Crompton (2004) defined psychic income as, "the emotional and psychological benefits residents perceive they receive, even though they do not physically attend sports events, and are not involved in organizing them" (p. 49). Psychic income is unique in that it creates a framework for assessing benefits perceived by local residents that are only passively supporting their local organization. Support for an organization is not isolated to the group of fans attending live sport events, as local pride for the athletic program can help create a positive benefits for the community and for those on-campus (Taks, 2013).

Researchers have emphasized the social impact of sport events or organizations may play a greater role in the impact analysis of a small-scale event within a smaller community versus a large-scale event in a large metropolis (Gibson, 1998; Taks, 2013). Gibson asserted that a small-scale local event was more likely to enhance the way of life of the host community because in such a scenario, more community residents are likely to be affected by the event in some way, creating a greater overall positive effect within the community (Gibson, 1998; Grieve & Sherry, 2012). This is further supported by more recent research showing that college athletic events, even smaller events presented by NCAA Division III athletic programs, play an important role in connecting with the community (Katz & Clopton, 2014; Meyer, Clopton, & Bass, 2014). These findings directly address the immense potential impact of psychic income within a college town community as many college towns are small, tightknit communities and college athletics events are a major community event.

Athletics administrators often tout these civic pride benefits when lobbying for public subsidies and/or support for facility improvements (Huml, Pifer, Towle, & Rode, in press; Humphreys, Johnson, Mason, & Whitehead, 2018; Seifried & Clopton, 2013). Waitt (2003) supported this argument when he examined host city residents' enthusiasm towards the Sydney 2000 Olympic Games. He found the majority of respondents perceived the benefits associated with hosting the event outweighed any costs. More recently, Humphrey and co-authors (2018) used contingent valuation method (CVM) to assess the Canadian public's value to provide additional compensation to Olympic medal winners. Their findings found the willingness to pay Olympic medal winners was contingent on public's expectations for national success. The CVM

approach relies on the question "how much would you being willing to pay?" in order to assign monetary value to benefits such as community excitement, civic pride, and social bonding (Burgan & Mules, 1992; Barlow & Forrest, 2015). Burgan and Mules (1992) applied psychic income in the economic assessment of sport events in tourism literature, identifying this psychological benefit as an important piece of the overall assessment of large-scale sporting events on a community, albeit requiring further investigation. Burgan and Mules explained that economists use CVM to quantify abstract factors, such as psychic income, when surveying a population. These studies aimed to identify and measure additional benefits to a community from the existence of a sports team (typically a professional one) not captured by the revenue generated from the team (Barlow & Forrest, 2015). For example, a study investigating the social benefits received by citizens of Minneapolis from the Minnesota Vikings using a CVM approach revealed on average, each household in Minnesota would be willing to pay $530.65 to keep the Vikings in their state (Fenn & Crooker 2009).

In application within a collegiate setting, Johnson and Whitehead (2000) employed the CVM method to quantify the positive externalities in the form of direct benefits, or public goods, produced by University of Kentucky's men's basketball team among residents of Lexington, Kentucky in an attempt to gauge community support for the public subsidization of a new basketball arena (Johnson & Whitehead, 2000). In their study, direct benefits encompassed civic pride, fan loyalty and community spirit, all non-rival and non-excludable public goods. These are all benefits incorporated within psychic income measures. The UK men's basketball study marks one of the few attempts to measure non-economic impact benefits created by a collegiate athletics team within a college town community. While the authors found 72% of respondents regularly discussed UK basketball with others and about one third of respondents claimed they "live and die" with Wildcat basketball, more than two thirds of the respondents said they would be unwilling to pay higher taxes for a new Rupp Arena (Johnson & Whitehead, 2000). However, these researchers acknowledged willingness to pay assessments did not fully illustrate the direct public benefits (psychic income components) in such a situation where there was no credible threat of losing the collegiate team to another city, as is often the case in these analyses of professional franchises. Going further, scholars have cautioned against the causation between an individual's willingness/unwillingness to pay for a sports team or event as a complete measure of their perceive psychic income (Johnson, Mondello, & Whitehead, 2006; Owen, 2006). Additionally, CVM can be complementary to psychic income by providing affected citizens with both economic and non-economic benefits from associated sport projects in close proximity to their homes. That said, CVM is limited to its expansion of psychic income findings, as psychic income is deliberately designed to measure benefits outside of economic means. Given the results of the Johnson and Whitehead (2000) study, further investigation into psychic income (not solely based in CVM measures) generated by a collegiate athletics team within a college town community is necessary in order to advance the literature in this area.

Conceptual Framework: Crompton's Psychic Income Paradigm

Building upon social impact and economic impact research, Crompton (2004) created a framework for psychic income within sport communities. Instead of focusing on the benefits that outside visitors bring to a community when they visit for a game or event, psychic income shifts impact measurement to the perceived benefits accruing to existing residents of the community due to the presence of a sport team/event. Crompton created the paradigm to identify a non-

economic rationale for public subsidy of major league sports facilities, however this work has application beyond new facility construction justification.

Crompton's (2004) paradigm consists of seven components: (a) community pride resulting from increased visibility, (b) civic pride from being a sport event host city, (c) pride in efforts to resuscitate deteriorated areas, (d) enhanced collective self-esteem, (e) tangible focus for social bonding, (f) excitement from the event visitors, and (g) emotional involvement with a sport event. This model suggests sports make a valuable contribution to the "excitement quotient" of a host community (Crompton, 2004, p. 55). The emotional involvement people feel with their team acts as a vehicle to help them escape the boredom or difficulty of everyday life. In addition, sport acts as a vehicle for developing a sense of community, pride in living in a "city of stature", and social bonding (Howard & Crompton, 2004, p. 182). These benefits are important to consider when taking stock of the value added to a community by a sports team.

Thus far, psychic income has almost exclusively been used in application to help justify the public subsidy of new sport facilities or the cost of bringing a professional sports franchise to a new city (Chema, 1996, Gibson et al., 2014; Sanderson 2000). Recently, it was also applied to measuring the social impact associated with major sporting events in a community (Kim, 2010). Kim and Walker (2012) established a scale of psychic income (SPI) to measure the social impact of Super Bowl XLII in Tampa Bay, Florida. They applied Crompton's seven-factor psychic impact paradigm to a survey allowing researchers to quantify the psychic income for Tampa Bay residents. The results of Kim and Walker's (2012) study indicated Tampa Bay residents benefited psychologically from hosting Super Bowl XLIII. Study responses suggested the five most relevant components of psychic income after hosting a sporting event are: (a) community pride/image, (b) community attachment, (c) event excitement, (d) community infrastructure and (e) community excitement. The results confirmed that Tampa Bay residents' overall perception of the impact of sporting events on the community was positive and they supported the decision to host the Super Bowl, post-event. In summary, enhanced community morale was identified as a direct result of hosting a mega-sporting event and built a case for the consideration of intangible benefits, in addition to the economic return, of hosting a major sporting event (Kim & Walker, 2012).

Prior to the current study, research examining the construct of psychic income had rarely been applied to the relationship between a major collegiate athletics department and residents of the local community in which the university resides. Perhaps this lack of previous scholarship is because college athletic programs cannot relocate, therefore cannot threaten to change geographic location in hopes of securing public subsidies, as previous performed by professional sport franchises. This lack of an opportunity to move the program may create an environment within the local culture where the athletic programs are taken for granted and certain fans perceive the athletic department as a constant within their lives. Measuring and understanding the components of psychic income within a college town community can be tremendously valuable in order to understand the scope of impact an athletic department can have, to maximize elements which are important to community members, and facilitate targeted fundraising efforts.

Universities often play a critical role in small- and medium-sized cities, as they can play an important part in urban development and help establish the initial steps within the research-to-practice process (Lazzeroni & Piccaluga, 2015). This strong relationship highlights the importance on assessing psychic income of local residents, who are the initial benefactors and victims based on the university's and athletic department's success (Corsi & Prencipe, 2018; Lazzeroni & Piccaluga, 2015). Kim (2010) also recommended further examinations of psychic

income in college athletics within different samples, geographical regions, and college settings in order to further establish its generalizability. Going further, understanding specific sub-populations within the local community that are expressing higher levels of psychic income would provide further value to athletic and university administrators. For example, identifying which specific demographic factors, such as gender, age, and education, that are more likely to express higher levels of psychic income can help administrators identify which groups are more likely to be satisfied with the effect from athletics and other groups that may need more active involvement in order to achieve higher satisfaction levels. This information would also be useful for university and city administrators, who could better identify certain groups that would be supportive of the value of athletics events, potentially with new initiatives like pursuing tax support for new facilities.

The purpose of this study is to examine the emotional and psychological benefit (psychic income) residents of a college town perceive based on group differences. As a secondary purpose, an exploratory instrument development process will be examined. This was done in order to make revisions to Kim and Walker's (2012) initial instrument development of SPI to accommodate resident perceptions of their local university's athletics program. To test this purpose, we created the following research questions:

RQ1: How do perceptions of psychic income of college town residents vary based on variables of: (a) gender, (b) ethnicity, (c) marital status, (d) highest level of education completed, (e) age, (f) fan identity, (g) perception of UNC Athletics economic impact, and (h) length of time lived in Chapel Hill?

RQ2: Which of the variables (mentioned above) are significant predictors of perceived psychic income?

RQ3: Is the modified Collegiate Scale of Psychic Income (CSPI-21) a reliable measurement of perceived community emotional impact of intercollegiate athletics?

Methodology

Instrument

The instrument utilized in this study was developed directly from the original form of the Scale of Psychic Income (SPI) used in Kim and Walker's 2012 study and rooted in Crompton's (2004) psychic income framework. The 42-item SPI used a seven point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree) to assess participants' attitudes towards each of the SPI components. Items taken from the SPI and incorporated into a new instrument (CSPI-21) were compiled through a process of review completed by experts in the field of scale development (n = 2) psychic income (n = 2) and intercollegiate athletics (n = 3). The original scale included six questions per sub-scale (n = 42). The modified version included three of the original items within each of the seven sub-scales (n = 21). Inclusion/exclusion criteria in scale modification was driven primarily by alpha scores as reported in previous studies (Kim, 2010; Kim & Walker, 2012). However, in a few instances, items with slightly lower alpha levels were incorporated into the CSPI-21 due to their relevancy to this study centered on intercollegiate athletics' impact on a college town community, as deemed by the content experts. Each of the

panel members independently recommended scale modifications, and met as a group to finalize the modification. The original 42-item survey was adapted and finalized to include 21 total items, which are provided in Table 1. The instrument was piloted with a small group of local residents (n = 8) who reviewed it for content and clarity.

Table 1

Crompton's Seven-factor Scale and Corresponding Survey Items

Factor	Item
Community pride resulting from increased visibility	Enhanced media visibility
	Nationally known city
	Television stations broadcasted
Civic pride from being a major college athletics host city	Positive image as college athletics host city
	Positive recognition*
	Opportunity to show
Pride in efforts to resuscitate deteriorated areas	Campus regeneration**
	The quality of community public services and facilities**
	Opportunities to revive the community
Enhanced collective self-esteem	Community confidence
	Self-respect for the community
	Sense of well-being
Tangible focus for social bonding	Social interactions within my community
	Sense of belonging
	More socializing opportunities
Excitement from athletic events and visitors	Enjoyed interacting with visitors
	Brought excitement*
	Provided new activities*
Emotional involvement with a college athletic department	Very important
	Enjoyed watching more college athletics games and events **
	Interest in college athletics **

* Questions retained from original SPI-42 scale with a lower alpha than an alternative question but more direct relevancy

**Slightly modified from original SPI-42 phrasing to be more applicable to the collegiate athletics context

Population

The target population for the study was residents of Chapel Hill, North Carolina. The University of North Carolina is a member of the Atlantic Coast Conference (ACC) and is one of the premier NCAA Division I athletic departments in the country based on overall success of UNC varsity athletics programs. It is one of only two athletics departments to have achieved a National Association of Collegiate Directors of Athletics (NACDA) Director's Cup at the Division I level since the award has been instituted, and has finished in the top-five over 10 times

during that span (NACDA, 2018). There also have been athletics-related scandals which have garnered national attention, most recently involving the NCAA's investigation into the unethical conduct of an assistant football coach and student-athletes receiving a grade for a class that required no academic work (Huml & Moorman, 2017). These scandals have led to polarized perceptions of the university's athletic department, with some internal stakeholders believing the athletics department should be removed from the university (Lewinter, Weight, Osborne, & Brunner, 2013).

Instrument

A survey was developed, based on the work of Kim and Walker (2012) and disseminated to residents who were voting in the national election. Surveying was conducted at two polling sites on Election Day (Tuesday, November 8th, 2016) and another site on an early voting day in order to ensure a sufficiently varied socio-economic sample. A systematic sampling technique was used to select participants: every other resident was approached as they left their designated polling place and invited to take a survey (Dillman, Smyth, & Christian, 2008). Residents who agreed took a paper version of the CSPI-21 and received a small gift (stickers, pencils, pens, etc.) courtesy of UNC Athletics and The Rams Club (fundraising arm of UNC Athletics). Roughly 80% of those who were invited to take the survey agreed (n = 270). Data-collectors believed it may have been to the general feeling of citizenship post-voting that facilitated such a strong rate of compliance. Residents who declined were still offered the same small gifts as those who did take the survey. Of those who participated, 82% (n = 222) were completed in full. The remaining 18% were evaluated for covariate impalances between the excluded and retained groups. A discussion of observed differences is discussed within the limitations section.

Data Analysis

Sample characteristics were examined using frequencies (%), and the proportional distribution of the sample by gender and ethnicity were compared to census data (U.S. Census Bureau, 2010). The reliability of the adapted CSPI-21 was examined using Cronbach's alpha (α). For the purposes of confirming reasonable levels of internal consistency, Cronbach's alpha values were computed for each sub-scale. A cut-off value of .70 was instituted as a threshold of internal consistency reliability for each construct (Nunnally & Bernstein, 1994).

Survey responses were then examined within the sub-sample of respondents who had complete responses to all survey items. Using a summated composite score of Psychic Income (PI) based on the survey responses, we examined group differences in PI across levels of sex, ethnicity, marital status, education, and fan identity. Demographic information was collected using a traditional demographic panel, while fan identity was collected using a single item measure using a Likert scale, ranging from 1 (not at all) to 5 (extreme). Single-item measurement for fan identity has been supported by previous literature (Apostolopoulou, Clark, & Gladden, 2006; Kwon & Trail, 2005). Wilcoxon Rank Sum tests were used to compare group differences in PI between gender and by marital status while Kruskal-Wallis tests were used to compare group differences in PI across levels of ethnicity, education, and fan identity. The Wilcoxon Rank Sum test is a non-parametric test used to evaluate differences in measures between two groups, while the Kruskal-Wallis test is used to evaluate differences in measures between three or more groups. We then fit a multivariable linear regression model to assess the effects of sex,

marital status, age, highest level of education, time lived in Chapel Hill, fan identity, and perceived economic impact, on PI. Empirical standard errors based on the robust sandwich covariance estimator were used for model fitting. Statistical significance was evaluated at the .05 (*p*) level, and all analyses were conducted in SAS 9.4.

Results

Collegiate Scale of Psychic Income-21 Analysis

A total of 222 participants contributed data to the current study. The distribution of participants across levels of gender and ethnicity, which is provided in Table 2, was generally consistent with census-based expected proportions (U.S. Census Bureau, 2010). Within the sample, we observed notably high proportions of college-educated participants (~73% of participants with at least a Bachelor's degree) and of participants reporting high levels (Very, Extreme) of fan identity (~43%). Estimated Cronbach's alpha (α) values, which are provided in Table 3, confirmed high internal consistency for the CSPI-21 (α = .95) overall, and for each examined sub-scale (ranging from .83 to .93).

Table 2
Sample characteristics and comparisons to census proportions

	Sample		Census
	n	%	%
Sex			
Female	161	59.6%	53%
Male	109	40.4%	47%
Ethnicity			
Caucasian	205	78.5%	73%
African American	25	9.6%	10%
Asian/Pacific Islander	12	4.6%	12%
Hispanic/Latino/Latina	7	2.7%	6%
Native American	1	0.4%	<1%
Other	12	4.6%	3%
Marital Status			
Married or Domestic Partnership	147	55.5%	
Single	118	44.5%	
Highest Level of Education			
Graduate Degree	115	43.6%	
Bachelor's Degree	77	29.2%	
Associate's Degree	13	4.9%	
High school graduate or GED	55	20.8%	
Some high school, no diploma	4	1.5%	
Fan Identity			
Not at all	29	11.1%	
Slight	41	15.6%	

Moderate	82	31.3%
Very	86	32.8%
Extreme	24	9.2%

Table 3

Summary Statistics for Collegiate Scale of Psychic Income (CSPI-21) Questions

	M	*SD*	*α*
Community pride resulting from increased visibility	**17.59**	**3.55**	**.83**
Our community receives enhanced media visibility due to Carolina athletics	6.05	1.30	
Our city is a nationally known city due to Carolina athletics	6.00	1.39	
TV stations showcase our community due to Carolina athletics	5.54	1.40	
Civic pride from being a major college athletics host city	**16.38**	**3.66**	**.83**
Our community has a positive image as a college athletics host city	5.50	1.43	
Our community receives positive recognition because of Carolina athletics	5.25	1.45	
Carolina athletics provides opportunities to show our community off	5.62	1.37	
Pride in efforts to resuscitate deteriorated areas	**15.07**	**4.24**	**.91**
Carolina athletics helps with campus regeneration and beautification efforts	5.13	1.50	
Carolina athletics has helped improve the quality of community public services	4.95	1.56	
Carolina athletics provides opportunities to revive the community	4.99	1.55	
Enhances collective self-esteem	**15.32**	**4.40**	**.93**
Carolina athletics enhances community confidence	5.25	1.52	
Carolina athletics enhances self-respect for the community	5.03	1.56	
Carolina athletics enhances community sense of well-being	5.03	1.60	
Tangible focus for social bonding	**16.78**	**4.20**	**.89**
Carolina athletics creates social interactions within my community	5.74	1.52	
Carolina athletics creates a sense of belonging within my community	5.36	1.62	
Carolina athletics creates socializing opportunities within my community	5.67	1.48	
Excitement from athletic events and visitors	**15.78**	**4.32**	**.84**
I enjoy interacting with visitors in town for Carolina athletics events	4.68	1.89	
Carolina athletics brings excitement to our community	5.90	1.42	
Carolina athletics provides new activities to our community	5.21	1.59	
Emotional involvement with a college athletic department	**13.11**	**5.94**	**.89**
Being emotionally involved in collegiate athletics is very important to me	4.09	2.19	
I enjoy watching more college athletics games and events because of Carolina athletics	4.72	2.12	
I am interested in college athletics because of Carolina	4.30	2.28	

**Scale ranged from 1 = strongly disagree to 7 = strongly agree*

The mean PI score within this sample was 110.0 (SD= 24.7), and stratified estimates of mean PI scores are provided in Table 4. Of note, we observed higher mean PI scores among single participants (M = 114.5; SD = 20.8), compared to married participants (M = 106.3; SD = 26.7), and increasing mean PI with increasing levels of fan identity. We also observed higher PI scores among African American participants (M = 116.7; SD = 21.5) compared to all other ethnic groups. Wilcoxon Rank Sum tests revealed significant group differences in PI scores between single and married participants ($p < .05$). Similarly, Kruskal-Wallis tests revealed significant group differences in PI scores across levels of education ($p < .01$) and fan identity ($p < .01$).

Table 4

Group Differences Based on Categorical Demographics and Fan Identity

	M	*SD*	*p*
Sex			.44
Male	109.1	23.2	
Female	110.6	25.7	
Ethnicity			.76
Caucasian	109.5	25.6	
African American	116.7	21.5	
Hispanic	111.2	15.7	
Asian	110.3	21.6	
Native American	90.0		
Other	108.9	28.3	
Marital Status			.04
Single	114.5	20.8	
Married or domestic partnership	106.3	26.7	
Highest Level of Education Completed			< .01
Some high school, no diploma	108.8	4.8	
High School or equivalent	117.5	21.5	
Associate's Degree	104.9	14.4	
Bachelor's Degree	114.5	22.0	
Graduate Degree	102.8	27.3	
Fan Identity			< .01
Not at all	91.5	22.0	
Slight	99.9	21.9	
Moderate	108.3	26.3	
Very	117.3	20.3	
Extreme	123.1	25.5	

Multivariable Linear Regression

In multivariable linear regression modeling, fan identity and perceived economic impact emerged as significant predictors of PI in this sample. Parameter estimates from the final model are presented in Table 5. We note that while unit increases in levels of fan identity resulted in 5.7 unit increase in PI scores, unit increases in levels of perceived economic impact resulted in 9.1 unit increase in PI scores. The set of covariates retained in the final model accounted for roughly 38% of the observed variability in PI scores within this sample. Evaluation of model diagnostics and residual analysis of the final model revealed adequate model fit. We note a significant association between fan identity and perceived economic impact exists in our sample (Kendall's Tau= 0.31; $p < 0.01$). While this is noteworthy, we do not believe it restricts the inferences obtained from the model, and note they were retained in the final model after assessment of collinearity (with VIF values for both variables approximately equal to 1.1). There was also confirmed endogeneity within the model as measured by Hausman test for endogeneity ($p < 0.01$). We therefore acknowledge that there is a potential unavoidable bias associated with the parameter estimate of fan identity in the final model.

Table 5

Parameter estimates and SEs, from final multivariable linear regression model of composite PI scores

	β	*SE*	*z*	*p*
Sex (Male)	-3.74	2.64	-1.42	0.16
Marital Status (Married/Partner)	0.79	3.3	0.24	0.81
Age	-0.13	0.1	-1.3	0.19
Education	-2.08	1.24	-1.69	0.09
Time in Chapel Hill	-0.19	0.15	-1.25	0.21
Fan identity	5.7	1.2	4.75	<0.01
Perceived Econ. Imp.	9.06	1.4	6.47	<0.01

Discussion & Implications

The overall purpose of this study was to examine the emotional and psychological benefit (psychic income) residents of a college town perceive based on group differences. As a secondary purpose, an exploratory instrument development process was also examined. This study was tested from the context of local citizens around the University of North Carolina at Chapel Hill (UNC). This study was fundamental to further our understanding of psychic income perceived by local citizens living in close proximity to a university and college athletics department. These findings also further support previous findings on athletic-related support for those living in close proximity to a major college athletics program (Coates & Humphreys, 2006; Kavetsos, 2012). Results indicate participants who are single, have completed a higher level of education, and possess a higher level of fan identity were more likely to report higher levels of psychic income than their counterparts. Additionally, fan identity and perceived economic impact were found to be statistically significant predictors of psychic income. As a secondary

finding, the exploratory instrument development process for CSPI-21 resulted in acceptable Cronbach alpha scores, providing initial reliability support for the instrument.

This study extends the tenets of psychic income within the sport management literature in several important ways. First, our modification of the psychic income definition to include those who may attend events or have an affiliation with athletics more fully captures the population within a community. While physical attendees, athletics employees, or volunteers are likely a significant minority within a sample, their voice as part of a community is important and they may be an important driver of positive psychic income. Additionally, this study expands the literature by being one of the first peer-reviewed studies to examine demographic and group differences regarding their perception of psychic income within college athletics, building largely upon Kim's (2010) initial investigation of psychic income of University of Florida college students regarding the UF athletics department.

Another important contribution to the literature is the strong association of fan identity with psychic income. Given the endogeneity within the results, it will be interesting for future research to decompose the given equation and explore this relationship between the two variables. The association between fan identity and psychic income aligns with a number of previous findings within the field of fan identity and athletic identity for former athletes (Crompton, 1995; Greenhalgh, Simmons, Hambrick, & Greenwell, 2011; Simmons & Greenwell, 2014). Perceived benefits for those responding higher on psychic income can help provide rationalization for the fan's consideration for attending athletic events, consuming media information on their team, and purchasing team-related goods (Kwon & Armstrong, 2002). These findings potentially highlight how fans are likely utilizing more of the amenities built within athletic stadiums (assuming fans are more likely to attend events) or ease of access to watching sporting events in local establishments or from the comfort of their home. It also potentially highlights the ease of access that these fans have in choosing to attend the game, watching the game at a local establishment, or watching the game from home, due to close proximity, that isn't afforded to other fans living at a greater distance from the UNC campus.

The additional findings for group differences are valuable for both theoretical advancements and practitioners. Study participants who identified as single could associate greater psychic income from UNC athletics due to greater free time or increased identity salience within certain areas due to a lack of a domestic partner or spouse. This may mean UNC athletics is either helping these individuals fill a void or has been an established part of their identity in the long-term (Greenhalgh, Simmons, Hambrick, & Greenwell, 2011; Simmons & Greenwell, 2014). Practitioners may want to seek out this information from their local and fan targeted populations to further connect with them through promotional materials. Going further, promotional activities, such as singles night, or themed events focused around family-related activities, may help build increase perceived benefits stemming from UNC athletics. The relationship beween level of education and PI was another interesting finding. The more highly educated respondents were more likely to have had on-campus educational experiences with UNC or another university, therefore creating a stronger relationship between college athletics and an important development period during their lives (Brand, 2006). As these people either moved away from their alma mater, or left the UNC campus and started their career near Chapel Hill, they may long to re-establish this connection through sporting events. Athletic departments like UNC athletics could invest in collecting data about local citizens who have completed their degree and reach out to them about the importance of college athletics and promotional materials

for attending an upcoming sporting event. This data would be especially important for non-UNC graduates, who are less likely to already be targeted by the university with marketing materials.

This study provides a number of contributions to the field of psychic income. First, this study helps extend the application of psychic income into the field of college athletics. Previous studies have examined psychic income within college athletics, but these previous attempts are either unpublished (Kim, 2010) or focused on instrument development (Kim & Walker, 2012). Therefore, this empirical study provides an opportunity to examine previously-established concepts within psychic income in an area of sport with unique differences comparative to other sport organizations and leagues. Psychic income in college athletics is a more constant comparative to other studied sport contexts, where events are either a one-time opportunity or isolated to a single sport (Oja, Wear, & Clopton, 2018). College athletics can provide a greater sense of community than other sport contexts, therefore creating a unique relationship between institution and local community (Katz & Clopton, 2014; Warner & Dixon, 2011, 2013). With value being placed on hosting sport events as a means for increasing psychic income for local constituents, college athletics can provide a number of events across many different sport outlets, all within or near their college campus.

These results build on Kim and Walker's (2012) study by providing a breakdown of psychic income by demographic variable, something the prior study did not include. The additional information and specific demographic breakdown of perceived psychic income received is important to building the body of research in an emerging area of study as demographic intricacies in perceived emotional benefits can facilitate targeted marketing efforts and enhanced justification for intercollegiate athletics. These results are highly actionable and significant for practitioners who continue to assert college athletics play an important role in society. The specific context of the Chapel Hill community nearing a decade of unresolved scandal is particularly encouraging and may point to even greater levels of perceived non-economic impact within other college-town or small communities (Gibson, 1998; Taks, 2013). A previous study examined the perceived value of UNC athletics while in midst of the NCAA investigation, but they did not include a measurement of psychic income (Lewinter et al., 2013). The results suggest that even given the negative media coverage, Chapel Hill residents for the most part perceive a positive psychic income from UNC Athletics and it strengthens the argument for continued resources toward supporting athletics within the academy (Kirwan & Turner, 2010; Knight Commission, 2010). Because of town-and-gown effects within college towns, forgiveness may come earlier from those living close to prominent athletic departments and/or having a previously established connection with the school (Katz & Clopton, 2014; Warner & Dixon, 2011, 2013). Additionally, these findings may indicate that UNC did an effective job communicating with their stakeholders, or perhaps most interesting, once psychic income is established, it may be hard to lose. Each of these potential practical implications should be further investigated in future research.

Aligning with the secondary, exploratory examination of this study, we looked into revising the SPI instrument to be more applicable for the context of college athletics. With this goal being exploratory, it was not an exhaustive development and only established basic levels of reliability within the subconstructs and the new instrument (CSPI-21) overall. The subconstructs of CSPI-21 ranged from .83 to .93, meeting the threshold standards established by Nunnally and Bernstein (1994), therefore providing initial support for reliability. These results suggest each of the three questions asked within each of the seven SPI categories reliably allowed respondents to evaluate the overarching SPI category. With these revisions to the SPI being exploratory in

nature only, further investigation into these items, the reduction of the total items within the instrument, and application to the context of college athletics will need further investigation in the future.

Limitations & Future Research Recommendations

The results of this study support Crompton's assertion that "a sports team is an investment in the emotional infrastructure of a community" (Crompton, 2004, p. 49). While further research is needed to expand this claim beyond Chapel Hill and the scope of UNC Athletics, this study fills an important gap in the literature by evaluating the psychic income received by residents of a college town from a college athletics department outside the context of building a new facility.

While it may be possible these results can be replicated in similar college towns and sport-affiliated communities, it should be noted that Chapel Hill and UNC Athletics present a unique sample size for several reasons. Specifically, UNC Athletics has had significant athletic success over its history both in men's basketball (six national titles) and Olympic sports such as women's soccer, men's and women's lacrosse and women's tennis (all have won national titles within the last five years). Additionally, UNC is a unique institution due to the close proximity of other elite rival institutions within the North Carolina Research Triangle. Duke, NC State, and UNC are each within a 25 mile radius of one another and these rivalries and affiliations are prevalent within the communities. Therefore, while the specific results of this study are highly actionable for athletic administrators at UNC-Chapel Hill, the results are limited in application to institutions differing in program success and affiliations, and fan identity and psychic income may be significantly influenced by these rivalries. A future recommendation, as echoed by Kim (2010), is to replicate this study within institutions of different settings, such as athletic departments of smaller stature (e.g., number of student-athletes, NCAA divisional differences, numbered of offered sports, athletic department that does not offer football). This recommendation might be especially impactful within a less successful athletics department in order to further establish nuance between perceived benefits of fans from perceived success. Participants for our study were also provided with merchandise from UNC's athletic department and fundraising. This reward may have created a conflict of interest for those who participated in the study. Lastly, this study polled participants near an institution that recently underwent significant public scrutiny related to an athletic department scandal, but this study did not directly measure how the scandal affected perceived benefits by the participants. A future study looking into how psychic income would be influenced by a recent athletic scandal would be most warranted.

There are additional limitations regarding our revisions of the original SPI instrument. While the exploratory examination of the instrument fit this study, further attempts to examine the validity of these changes are necessary and limit the application of this revised instrument moving forward. While these findings hold promise for application within the context of college athletics and a shortened instrument, further scrutiny is warranted.

We note that our chosen method of sampling results in a potential for frame error. We consider this to be a general threat to the external validity of the findings. Though our compairsons to census data may alleviate this concern slightly, we recognize limitations to the generalizability of our findings exist. With that said, the data collected in this study precludes our ability to address this further, and the authors felt this was the best method to sample a broad

demographic of city residents. Further, given our modification of the original psychic income definition proposed by Crompton (2004), to include those who may physically attend sporting events or are affiliated with athletics in some way, it would have been helpful to know what percentage of the population fit this criteria. We encourage future researchers to include these measures.

We note that 48 participants were excluded from the analytical data set due to missing survey responses. In comparing covariates for group-differences (excluded vs. retained), we note covariate distribution imbalances between groups in marital status and highest level of education. We acknowledge this as a limitation, and note the analytical approach was maintained for inferential consistency between the tests conducted. Considering the relatively large proportion of observations with missing values, we feel that not restricting the sample here would result in considerable heterogeneity between the samples utilized in specific tests, which may be avoidable.

Another area of future research is to examine more fully the relationship between fan identity and psychic income. When examining the estimate associated with fan identity from our linear regression model, we observed evidence of endogeneity. While this limits our inferences, the data collected for this study precluded our ability to handle this further. We did not have data on an appropriate instrument variable available to us, in order to generate predicted values of the endogenous fan identity. As a result, we were unable to address the observed endogeneity using the traditionally used technique of 2-stage least squares specification. Given the results observed within our model, future researchers are encouraged collect data on additional variables that may serve as the above-referenced instrument variable in similar circumstances. In addition, it is important also to conceptualize a decomposed structure of fan identity and identify charactersitics that are unique to fan identity. Moving forward, this will provide the requisite theoretical framework to refine the measurement of fan identity.

Future research is also needed to examine the psychic income from college athletics programs in other environments such as a larger metropolitan area (ex: Northwestern or Boston College) or the psychic income received by residents of a college town but from a program with less athletic and academic success than UNC. Other suggestions for future research include performing the same study in Chapel Hill in the future with years removed from the “scandal”, or surveying residents of other college towns regarding psychic income received from their local collegiate athletics program and comparing results to the psychic income received by Chapel Hill from UNC Athletic.

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